



Presenter

Hilary Stevens - Coastal Risk Consulting

Additional Authors

Dr Leonard Berry - Coastal Risk Consulting

Guiding Resilience Planning Through Flood Risk Mapping

In coastal areas around the country, communities are facing the challenges of rising water. Flooding due to sea level rise, storm surge, and intense rainfall is becoming more frequent in the Carolinas and elsewhere. Coastal Risk Consulting (CRC) has developed a flood risk assessment tool for mapping areas at risk of inundation. Our model is built on publicly available data sets from agencies such as NOAA, FEMA and USGS. Our technology is available to local governments, private organizations and property owners to enable them to make better-informed decisions about protecting existing developments, designing new construction, and long term planning. For municipalities, we can generate a community-wide vulnerability assessment and make recommendations for appropriate adaptation measures.

CRC worked with Christ and St Luke's Episcopal Church in Norfolk, VA, where flooding is already impacting the city regularly. CRC's flood forecasts helped the parish understand how to better protect their beautiful historic building as well as the community and sense of identity that they derive from the use and enjoyment of that space.

In Florida, CRC has worked with municipalities such as Miami Shores Village to help local leaders plan for sea level rise and climate change. CRC conducted a public meeting to raise awareness and gather feedback about flooding hotspots and residents' priorities. CRC worked closely with village staff address specific concerns and prioritize urgent needs. In collaboration with experienced civil engineers, CRC developed maps detailing infrastructure such as roads and drainage systems that were at short and long term risk of inundation due to sea level rise. Our team gave the Village recommendations for what types of investments were needed to address the flooding, such as roadbed improvements to withstand higher groundwater levels and converting septic tanks to sanitary sewer. This project provided officials with the information they needed to develop budgets and plan for improvements over the coming years and decades.