<p><strong>NOAA Office:</strong>OCM </p>   
<p><strong>Duration of Use Case:</strong>Ongoing </p>  
<p><strong>Link to Case:</strong> </p>  
<p><strong>Geographic Location:</strong>United States </p>  
<p><strong>Is the Use Case Published?</strong>No </p>  
<p><strong>Primary Use:</strong>Flood Resiliance </p>  
<p><strong>Which Marine Industries Benefit from the case:</strong>Insurance/Reinsurance, Infrastructure </p>  
<p><strong>Case Benefits:</strong>The resulting mapping and Flood Insurance rate Maps support many FEMA programs that drive flood insurance rates, floodplain management, building regulations, and mitigation efforts that lead to public safety, risk reduction, and saving lives. Without the NOAA data and tools these studies would not be able to be done and the study costs would be a lot higher, due to needing to perform data collection and develop before the studies could start. </p>   
<p><strong>Description:</strong> NOAA data and tools are used from start to finish when performing FEMA coastal flood studies. Topographic and Bathymetric data are obtained from NOAA’s Digital Coast, as well as from NOAA NOS Hydrographic data. NOAA VDATUM is used to convert topographic and bathymetric data from various sources to a common vertical datum. The NOAA shoreline data is used to establish baselines for modeling. The Historical Hurricane Tracks are used to select historical storms chosen for model validation, for representing extremal frequency analysis, landfall rates…. NOAA HURDAT database is used to obtain historic storm parameters such as central pressure. NOAA CO-OPS is used to extract historic storm time-series and tidal predictions of water levels for comparing with modeled results. C-CAP land cover data is used to develop friction and wave propagation dissipation model inputs.  
  
The data from NOAA ensures that the coastal studies all use consistent and high quality datasets. NOAA data often is used to guide if studies can be performed and what methodologies are used. The data is used to produce FEMA’s Flood Insurance Rate Maps, as well as non-regulatory products.</p>