

NOAA National Ocean Service Storm Surge Modeling: Research, Development and Operational Services

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NOAA National Ocean Service's (NOS) Office of Coast Survey (OCS) develops NOS' storm surge modeling infrastructure to continually advance the current Operational coastal flooding inundation Forecasting Systems (OFS). The goal is to provide high quality guidance to the end users and stakeholders in public and private sectors. NOS/OCS' storm surge modeling team engages in research, development and operational support of the NOS' storm surge modeling portfolio. NOS/OCS' storm surge modeling team in close collaboration with other NOAA line offices and its academic partners are working towards establishing a seamless flexible coupling framework among atmosphere, coastal ocean, surface waves, sea-ice and inland hydrology models through NOAA's Water Initiative, COASTAL Act Program, Hurricane Supplemental and other NOAA wide efforts. I will present recent developments into a coupled surge-inland hydrology application that is built off the framework of our NUOPC-coupled wave-surge application (Moghimi et al. [2019, 2020]). Consequences of the compound inland coastal flooding in the coastal inundation is evaluated for the number of recent storms in the U.S. Atlantic coast (Huang et al., 2021; Ye et al., [2020, 2021]; Zhang et al., 2020).

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