Sea level change will be the most fundamental factor driving coastal change along the U.S. – and global – coastline in the coming decades and centuries, with profound disruption and displacement of infrastructure and communities. However, sea level does not change uniformly, due to coupled interactions between the ocean, cryosphere, and solid earth. Regional sea level (RSL) rise can be significantly larger or smaller (by 50% or more) than the global average, with the U.S. coast heavily impacted by regional variations. This talk/poster summarizes the planned work for a newly funded DOE Early Career Research project. The new work will fill a critical gap in the application of the Energy Exascale Earth System Model (E3SM) to coastal impacts by creating an RSL rise modeling capability within E3SM. The sea-level-enabled E3SM will be developed by 1) adding a Sea Level Equation model to E3SM and 2) adding regional sea level representation to the ocean and ice sheet components. This unique tool will be used to quantify the role of RSL in future storm surge along the U.S. coast. These first fully consistent RSL projections will be used to investigate the accuracy of existing methods that rely on adding disparate, non-interacting contributors to sea level. The sea-level-enabled E3SM provides a critical missing link required for making actionable projections of coastal impacts using DOE’s investment in E3SM.