The talk will focus on some aspects of coastal engineering that are amenable to computational modeling solutions. A number of different types of computational models will be highlighted and their application discussed, along with their advantages and drawbacks in various circumstances. The talk will begin by addressing hydrodynamical modeling and what that can provide for coastal managers and consultants, and move on (time permitting) to morphodynamical modeling. Along the way some examples of some of the types of problems encountered around British coasts will be shown.