The purpose of the Coastal Engineering Manual (CEM) is to provide a comprehensive technical coastal engineering document. It includes the basic principles of coastal processes, methods for computing coastal planning and design parameters, and guidance on how to formulate coastal flood studies, shore protection, and navigation projects.

The CEM is divided into two major subdivisions: science-based and engineering based. The science subdivision is further divided into three parts. The first part, “Coastal Hydrodynamics,” leads the reader from the fundamental principles of wave theory and ocean wave generation through the process of wave transformation as the wave form approaches and reacts with the shore including water-level variations and currents. The second part, “Coastal Sediment Processes,” addresses longshore and cross-shore transport as well as shelf, and wind transport processes. The third part, “Coastal Geology,” covers
geomorphology, coastal classification, and morphodynamic processes on sandy shores.

The engineering-based subdivision is oriented toward a project-type approach, rather then the individual structure design and is divided into two parts. The first one, “Coastal Planning and Design,” provides information on the design process and selection of appropriate type of solution to various coastal problems. The second part, “Design of Coastal Project Elements,” provides engineering guidance on materials, fundamentals of design, and reliability.

The first four parts of the CEM and an appendix were issued in 30 April 2002. These included:

Part I, “Introduction”
Part II, “Coastal Hydrodynamics”
Part III, “Coastal Sediment Processes”
Part IV, “Coastal Geology”
Appendix A, “Glossary”

The engineering-based subdivision is oriented toward a project-type approach and is divided into two parts. Part V, “Coastal Project Planning and Design,” was published separately on 31 July 2003. The text and figures provide information on the design process and selection of appropriate types of solution to various coastal problems. Part VI, “Design of Coastal Project Elements,” which provides engineering guidance on materials, fundamentals of design, and reliability, was published on 28 September 2011.