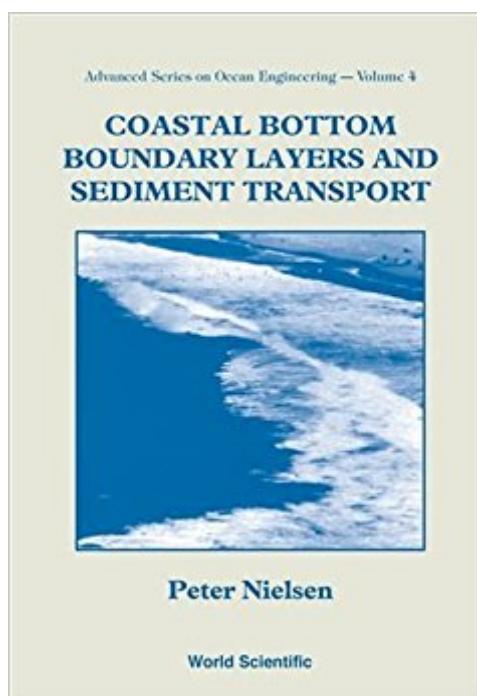


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# Coastal Bottom Boundary Layers And Sediment Transport (Advanced Series On Ocean Engineering (Paperback))



## **Synopsis**

This book is intended as a useful handbook for professionals and researchers in the areas of Physical Oceanography, Marine Geology, Coastal Geomorphology and Coastal Engineering and as a text for graduate students in these fields. With its emphasis on boundary layer flow and basic sediment transport modelling, it is meant to help fill the gap between general hydrodynamic texts and descriptive texts on marine and coastal sedimentary processes. The book commences with a review of coastal bottom boundary layer flows including the boundary layer interaction between waves and steady currents. The concept of eddy viscosity for these flows is discussed in depth because of its relation to sediment diffusivity. The quasi-steady processes of sediment transport over flat beds are discussed. Small scale coastal bedforms and the corresponding hydraulic roughness are described. The motion of suspended sand particles is studied in detail with emphasis on the possible suspension maintaining mechanisms in coastal flows. Sediment pickup functions are provided for unsteady flows. A new combined convection-diffusion model is provided for suspended sediment distributions. Different methods of sediment transport model building are presented together with some classical models.

## **Book Information**

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## **Customer Reviews**

"The book has a good balance between mathematics and discussions of the physics involved. The author has certainly produced a well-written, carefully organized and informative book representing

an important link between boundary layer flow models and the resulting sediment transport. It is on this basis that I recommend the book, which should be very useful for both scientists and engineers working in the area of coastal process modelling. The book should also be well suited for use in graduate student courses." D Myrhaug Coastal Engineering, 1993 "... a well-written book.

Mathematics is kept to a minimum and there are a number of helpful worked examples ... Nielsen's book describes what may well be the majority view in ten years time." J F A Sleath J. Fluid Mech., 1995

Peter Nielsen is an experienced mariner and the editor of "SAIL" magazine. He was previously editor of "Yachting Monthly" magazine in the United Kingdom. --This text refers to an out of print or unavailable edition of this title.

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