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Sommario/riassunto	This book introduces a framework of tsunami modelling from generation to propagation, aimed at application to the new observation started in Japan after the devastating tsunami of the 2011 Tohoku-Oki earthquake. About 150 seismic and tsunami sensors were deployed in a wide region off the Pacific coast of eastern Japan in order to catch tsunami generation inside the focal area, which makes a clear departure from conventional observations that detect tsunamis far from the source region. In order to exploit the full potential of this new observation system, it is not enough to model tsunami generation simply by static sea-bottom deformation caused by an earthquake. This book explains dynamic tsunami generation and sea-bottom deformation by kinematic earthquake faulting, in which seismic and acoustic waves are also included in addition to static sea-bottom deformation. It then systematically derives basic tsunami equations

from the fundamental equations of motions. The author also illustrates the details of numerical schemes and their applications to tsunami records, making sound linkages among these topics to naturally understand how a tsunami is physically or mathematically described. This book will be a comprehensive guide for graduate students and young researchers to start their research activities smoothly.