

## PREFACE

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The implementation of operational oceanography in the past 15 years has provided many societal benefits and has led to many countries adopting a formal roadmap for providing ocean forecasts. Continuing the tradition of two very successful international summer schools held in France in 2004 (Chassignet and Verron, 2006) and in Australia in 2010 (Schiller and Brassington, 2011), a third international school that focused on frontier research in operational oceanography was held in Majorca in 2017. In the coming years, graduate students and young scientists will be challenged by many new observations (SWOT, Sentinel, AUVs, floats, etc.), complex high-resolution numerical models and data assimilation (high resolution, predictability, uncertainty, changing computing platforms, etc.), and the need to work on many scales (open ocean-shelf interactions, coupled ocean-ice-atmosphere, biogeochemistry, etc.). The latter school brought together senior experts and young researchers (pre- and post-doctorate) from across the world and exposed them to the latest research in oceanography, specifically how it will impact operational oceanography. This book is a compilation of the lectures presented at the school and presents a summary of the current state-of-the-art in operational oceanography research.

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