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Guest editorial

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This special issue is prepared based upon selected papers presented at the Scientific and Technical Symposium on Storm Surge sponsored by the JCOMM (Joint WMO–IOC Technical Commission on Oceanography and Marine Meteorology) of the World Meteorological Organization (WMO) in Geneva and the IOC (Intergovernmental Oceanographic Commission) of UNESCO in Paris. This symposium was hosted by the Korea Meteorological Administration and the Korea Ocean Research and Development Institute. All these papers have gone through the usual standard peer review. We, the guest editors, thank Springer Publishers for providing us this opportunity to guest-edit this special issue. This issue has a total of 13 papers dealing with the latest developments in the numerical modelling of storm surges.

Paper one by Dube et al. deals with storm surge modelling in the marginal seas of the north Indian Ocean, namely the Bay of Bengal and the Arabian Sea. Paper two is by Cardone and Cox and is about tropical cyclone wind field forcing for storm surge models, with particular emphasis on critical issues and sensitivities. In paper three, Etala focuses on the accuracy of atmospheric forcing for the prediction of storm surges from extra-tropical cyclones.

Paper four is written by Kwun et al. and concentrates on meso-scale models and parameterizations in the planetary boundary layer. Dynamic issues in the storm surge models for South America are dealt with in paper five by Etala. Lee and Seo tackle storm surge prediction using artificial neural networks and cluster analysis in paper six.

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Macadam et al., in paper seven, describe a modelling approach for estimating the frequency of sea level extremes and the impact of climate change, with reference to southeast Australia. Extreme sea levels, coastal flooding and climate change in Atlantic Canada are dealt with in paper eight by Thompson et al. Heo et al. authored paper nine, in which they simulated atmospheric states for a storm surge on the west coast of Korea and compared the results from three different numerical models. In paper ten, Resio et al. describe the basic concepts of a surge response function approach for coastal hazard assessment. In a continuation of this paper, which is paper 11, Irish et al. describe the quantification of spatial attributes of response functions. Paper 12 is authored by Wamsley et al. and discusses the influence of landscape restoration and degradation on storm surges and wind waves in southern Louisiana. The final paper 13 is authored by Harper et al. and is about the developments in storm tide modelling and risk assessment in the Australian region.

We hope that the readers of this Journal will find this special issue interesting and informative.