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Recent advances and challenges in storm surge and flood forecasting: Examples from Delft-FEWS

A.H. Weerts (1), M Verlaan (1), P Gijsbers (2), and B Jagers (1)

(1) Deltares, Inland Water Systems - Operational Water Management, Delft, Netherlands (albrecht.weerts@deltares.nl), (2) Deltares USA Inc. , Suite 303, 8070 Georgia Ave Silver Spring, MD 20910, United States of America

Modern open-platform forecasting systems enable the forecasting agencies to run multiple models or even model chains in parallel. They provide a one stop shop for forecasting, displaying and analyzing measurements and forecasts, and creating forecast products. In addition, modern open-platform forecasting systems enable the introduction of new methods for improving forecasts and quantifying uncertainties.
An overview will given of current advances and challenges in forecasting in different parts of the world. Examples include flood, storm surge and wave forecasting in the Netherlands, rapid satellite-based flood mapping, dike/levee or seawater defense strength forecasting, predictive uncertainty estimation, and examples of early warning systems for tsunami and typhoon prone areas.