

Global scale predictability of floods

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Flood (and storm surge) forecasting at the continental and global scale has only become possible in recent years (Emmerton et al., 2016; Verlaan et al., 2015) due to the availability of meteorological forecast, global scale precipitation products and global scale hydrologic and hydrodynamic models. Deltares has setup GLOFFIS a research-oriented multi model operational flood forecasting system based on Delft-FEWS in an open experimental ICT facility called Id-Lab. In GLOFFIS both the W3RA and PCRGLOB-WB model are run in ensemble mode using GEFS and ECMWF-EPS (latency 2 days). GLOFFIS will be used for experiments into predictability of floods (and droughts) and their dependency on initial state estimation, meteorological forcing and the hydrologic model used. Here we present initial results of verification of the ensemble flood forecasts derived with the GLOFFIS system.

Emmerton, R., Stephens, L., Pappenberger, F., Pagano, T., Weerts, A., Wood, A. Salamon, P., Brown, J., Hjerdt, N., Donnelly, C., Cloke, H. Continental and Global Scale Flood Forecasting Systems, WIREs Water (accepted), 2016

Verlaan M, De Kleermaeker S, Buckman L. GLOSSIS: Global storm surge forecasting and information system 2015, Australasian Coasts & Ports Conference, 15-18 September 2015, Auckland, New Zealand.