Boosting flood hazard data for Africa with EO and modeling

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Flooding is one of the world's costliest and most devastating natural disasters as clearly evident in recent event history on many continents. Many countries, however, lack many of the datasets required to establish effective flood preparedness, mitigation, or indeed, disaster response strategies. Good quality boundary data including river network data, DEM and many other hydrodynamic variables, are crucial to create high-accuracy flood hazard maps from models. Satellite Earth Observation (EO) is also a vital component and can deliver much needed flood event information, especially for countries that are deprived of high-accuracy ground stations and field data. Over recent years, progress in both large-scale flood hazard modeling and satellite mapping of floods has been increasing dramatically and many products are now mature enough to pave new ways to aid flood risk management and disaster response in many countries that traditionally have been deprived of datasets needed to drive such actions. In this study, we showcase a number of newly generated flood hazard datasets at continental scale over Africa, including unprecedented hydrodynamic base layer data, flood hazard model simulations and satellite flood event maps, which, we believe, when used in concert, could be game-changing in the fight against floods at a global level.