SERVIR is a joint NASA - US Agency for International Development (USAID) project to improve environmental decision-making using Earth observations and geospatial technologies. A common need identified among SERVIR regions has been improved information for disaster risk reduction and in specific surface water and flood extent mapping, monitoring and forecasting. Of the 70 SERVIR products (active, complete, and in development), 4 are related to surface water and flood extent mapping, monitoring or forecasting. Visit http://www.servircatalog.net for more product details.

**Flood Simulator for African Basins**
**RCMRD/SERVIR-Eastern & Southern Africa with FEWS NET**

This application combines the CREST hydrologic model with digital elevation maps and sends users an email alert with real-time and short-term forecast flood inundation maps of select stream-gauge locations. An web map version of the flood simulator is above.

http://cloud.rcmrd.org/floodsimulator/


**Multi-Scale Disaster Risk Assessment and Decision Support System for DRR**
**ICIMOD/SERVIR-Himalaya**

Flood simulations for Rapti river, Nepal, under different rainfall accumulations (100 to 420 mm) and return periods (2-100 yr), support planning and risk reduction.

http://apps.geoportal.icimod.org/raptiflood
http://www.icimod.org/?q=21316

**Surface Water and Flood Extent Mapping Tool For the Lower Mekong**
**SERVIR-Mekong: ADPC / Deltares / SEI / SIG**

This satellite-based water resources and water hazard mapping system produces a series of historical flood extent maps for the years 2000 to 2015 for the most extensive flooding in the Lower Mekong Basin during monsoon seasons to help end users visualize and understand the inter-annual variability of inundated areas. Landsat and SRTM are primary inputs into processing run on Google Earth Engine.

Thailand example: Modified Normalized Difference Index

http://servircatalog.net/.../20160105-global-satellite-coverage-improves-flood-mapping/


We acknowledge the NASA Earth Science Division Applied Sciences Capacity Building Program, US Agency for International Development/EU Bureau Global Climate Change Office and USAID Regional and Bilateral Missions in Kenya, Nepal, Thailand, and Ghana, the SERVIR Science Coordination Office at NASA/MSFC, SERVIR-Eastern & Southern Africa at RCMRD, SERVIR-Himalaya at ICIMOD, and SERVIR-Mekong at ADPC, with SIG, SEI, and Deltares.