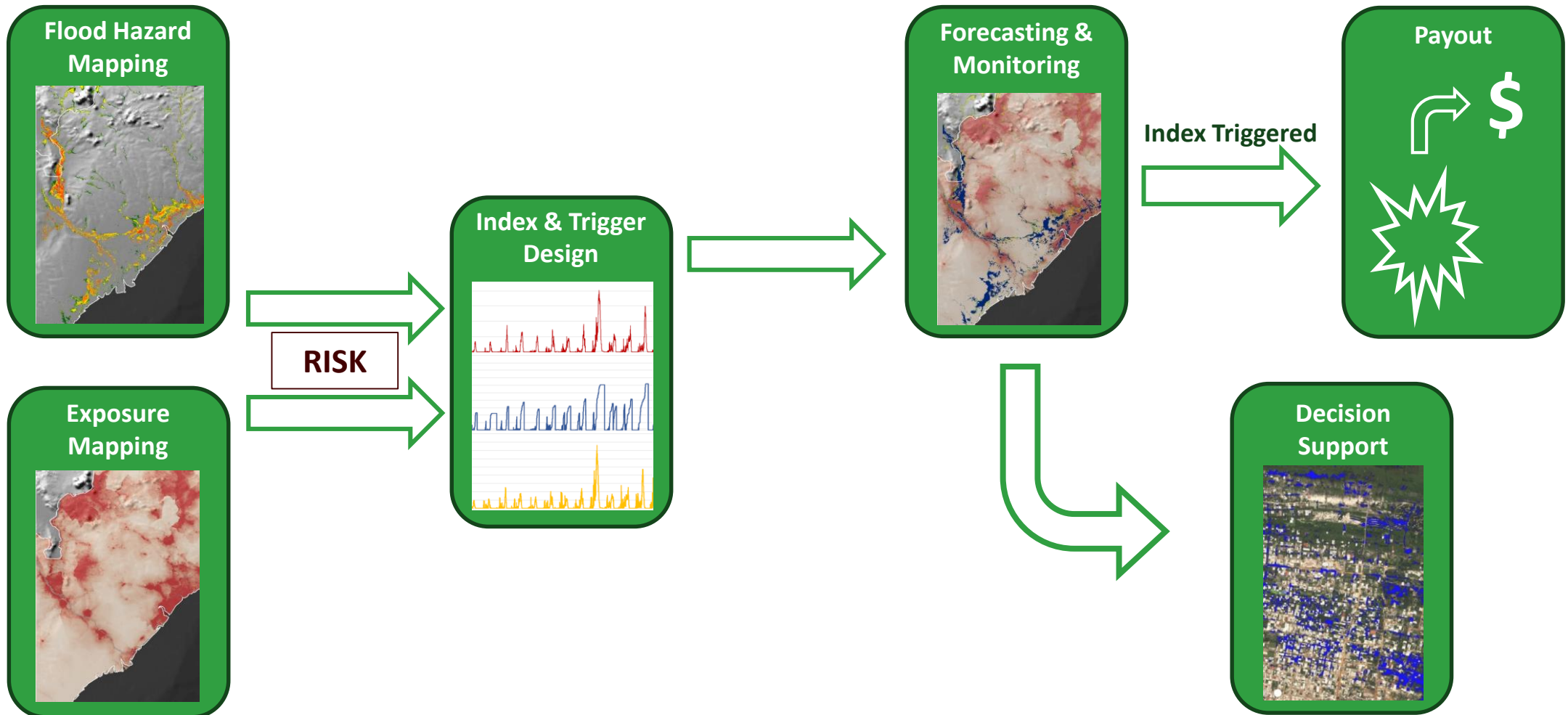


Advances in Earth Observation => improved flood risk modelling

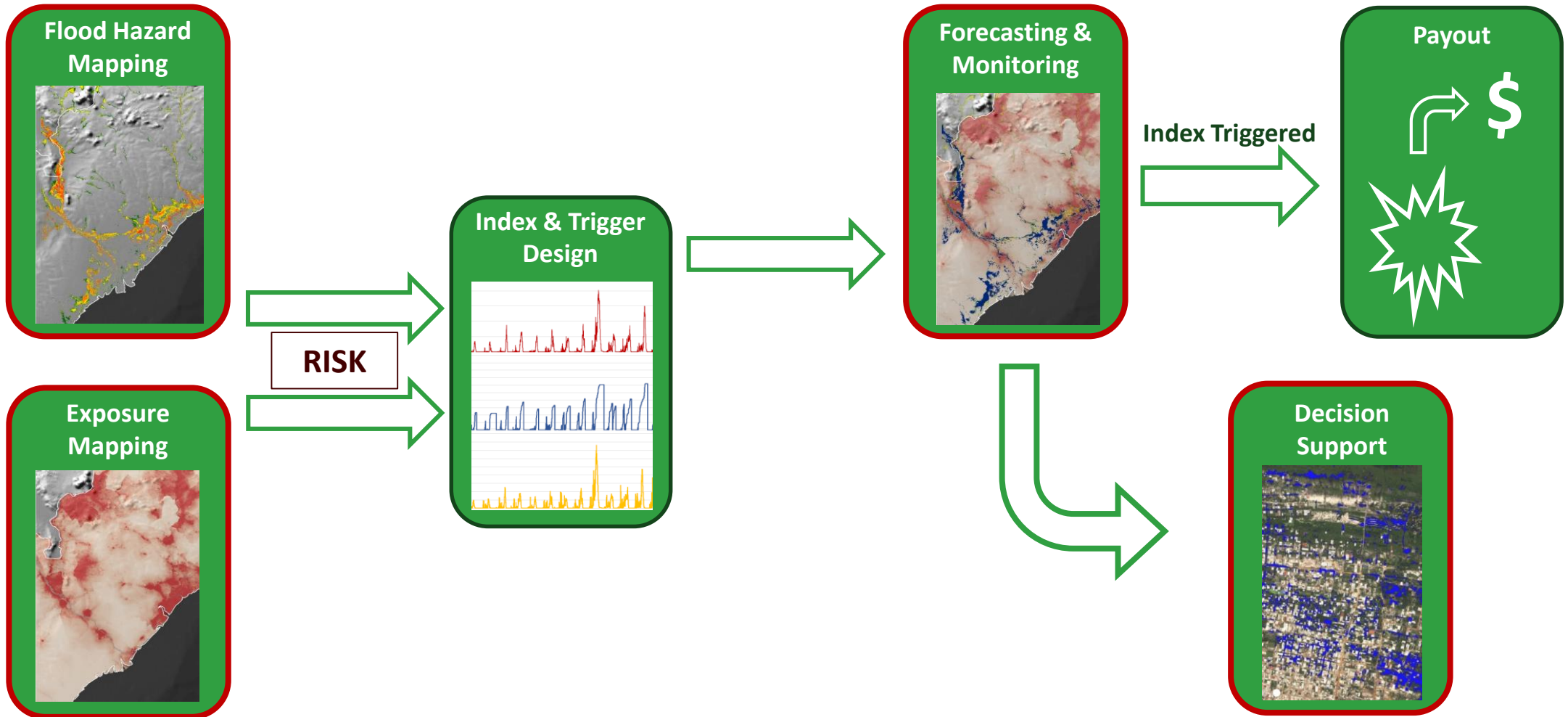
Water world webinar: How EO data is deepening our knowledge of flood risk and water resource management

Francois KAYITAKIRE, PhD
Director, Research and Development Department

Overview: ARC's Flood Risk Insurance

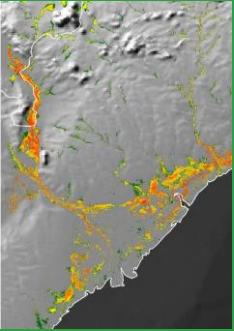


Overview: ARC's Flood Risk Insurance



Expected ARC-Needs in EO Services

Flood Hazard Mapping



EO Services for ARC Flood Hazard Mapping

- Improved **DEM-data** to be used as hydraulic model input and river network/catchment characterisation;
- **Gridded rainfall** datasets;
 - Higher spatial & temporal resolution products are required to capture, e.g. flash floods;
- EO-derived **surface water** datasets (e.g. JRC's Global Surface Water layer);
- EO-derived **soil moisture** datasets;
- Modelled flood extent validation using **high resolution flood mapping** outputs (from e.g. Sentinel);
- **Land-cover** datasets for calibration and/or validation of model input parameters.

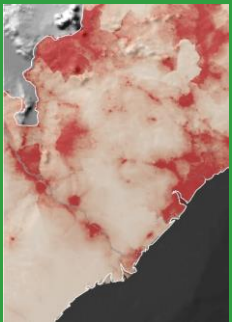
Expected ARC-Needs in EO Services



EO Services for Exposure Mapping

- Land Use/Cover;
 - Detailed thematic layers for improved characterisation of the potentially affected environment;
- **High-resolution DSM/DTM** products for detailed characterisation of the urban environment (e.g. extraction of building-heights):
 - There is a general lack in the availability of abovementioned datasets over African cities.

Exposure
Mapping

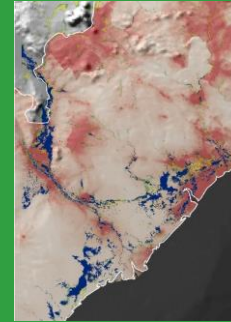


Expected ARC-Needs in EO Services

EO Services for in-season monitoring:

- Modelled flood extent validation using high resolution flood mapping products (e.g. Sentinel):
 - Recent / current extents for in-season modelled extent verification;
 - Extraction of impact analytics from abovementioned products for in-season model output validation.

Forecasting & Monitoring



Index Triggered

Layout

EO Services for decision support:

- High resolution flood extent mapping combined with information and data from local disaster response agencies and other relevant government departments;
- For centralisation of the storage and targeted dissemination of detailed spatial information and decision support for interested and affected parties.

Decision Support





Website: www.africanriskcapacity.org

Twitter: @ARCapacity