

# Rapid Flood Hazard Monitoring

**A new and innovative flood monitoring service for environmental management agencies, insurers, reinsurers, critical infrastructure owners and emergency responders. Delivering situational hazard mapping at peak flow in near real time.**

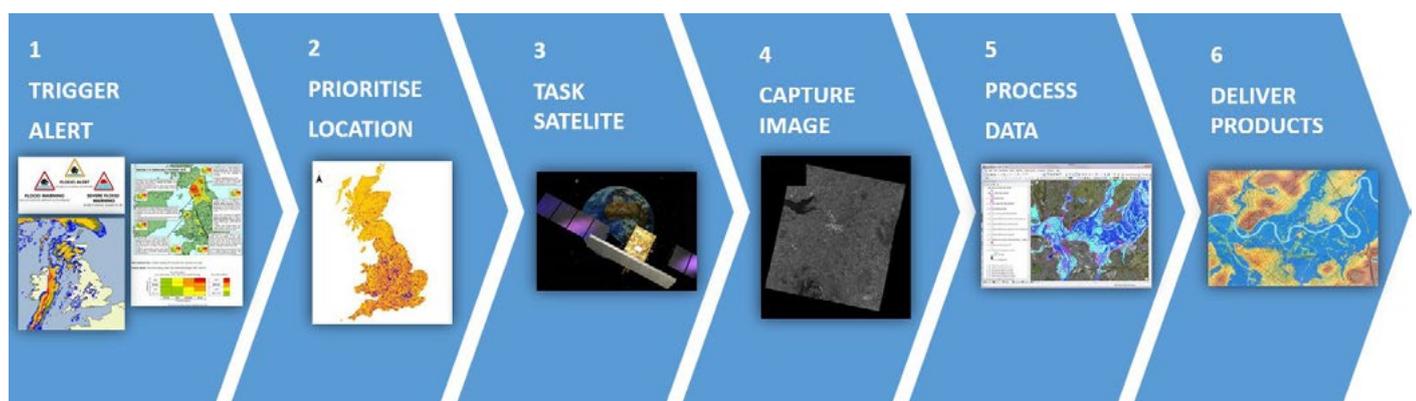
Developed in partnership by flood experts Ambiental and Earth Observation specialists Telespazio VEGA, the service uses high precision Synthetic Aperture Radar (SAR) and state of the art automated geo-spatial processes to deliver accurate flood monitoring layers delivered via Web Mapping Service (WMS).

Using Smart Activation technology the service detects when and where flooding is likely to occur and instructs COSMO-SkyMed satellites to acquire 3m resolution SAR data over the area of interest prior to peak flow. Scene selection is directed through a flood risk prioritisation map to ensure that the highest value data is captured in the right place at the right time.

*“Historically the remote sensing of flooding has occurred in a very reactive way which can mean that a satellite is tasked too late or in the wrong location. Furthermore, data was often not available within useful timeframes. There was clearly a need for a faster, more accurate solution – which is what our service delivers to the market for the first time.”*

— GERAINT COOKSLEY  
GROUP MANAGER (GI OPERATIONS),  
TELESPAZIO

## Smart Flood Activation concept



**ambiental**<sup>®</sup>  
predicting · preventing · protecting

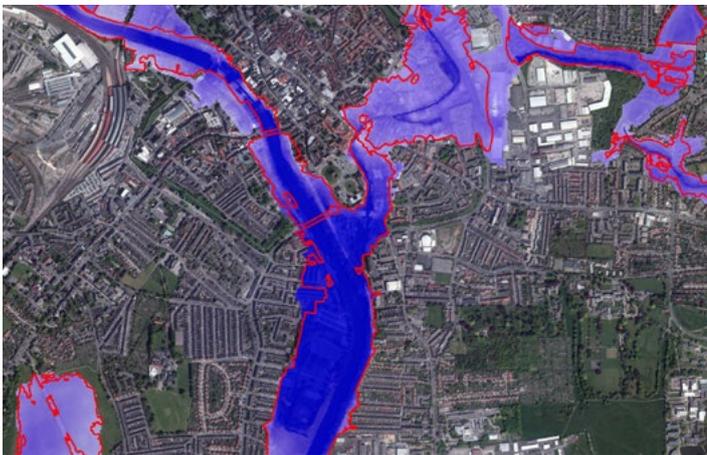
 **TELESPAZIO**  
a LEONARDO and THALES company

## Features

- Advanced flood extent delineation from SAR imagery
- Automated algorithms improve accuracy in urban areas
- Flood extent, depth and velocity map layers delivered via WMS
- Fully processed flood products delivered within 3 hours of data acquisition
- Up to twice daily data refresh for multiple locations when applicable
- Access to a growing archive library of major flood event data records
- Provided as high and lower confidence variants to aid interpretation
- Inclusion of imagery from multiple SAR and optical satellites plus UAV's
- An established system in the UK with an international capability
- Flexible licensing options via a subscription based pricing model

*“Through applying our knowledge of how flooding operates we are able to process out signal ‘noise’ to build reliable models of flood events. The rapid speed of distribution enables central command teams and people on the ground to make better informed decisions around protecting lives and properties. Accurate data is also vital in post event scenario analysis.”*

— JUSTIN BUTLER  
MANAGING DIRECTOR, AMBIENTAL



York – EA recorded flood event in red, monitoring layer output in blue.



Carlisle – EA recorded flood event in red, monitoring layer output in blue.

## Proven capability with strong validation

The Flood Monitoring Service was developed under the Space for Smarter Government Programme through two complimentary phase 1 projects and a follow up phase 2 project. During these projects it was established that this concept was viable in terms delivery timescales and product quality. The winter storms of 2015/6 allowed the system to be live tested. These results correlated very well with Environment Agency post event flood extents. This service has received considerable support from UK government agencies and generated interest amongst insurance companies within the UK and internationally.



Led by the UK Space Agency  
Delivered in collaboration with the Satellite Applications Catapult

## For more information

To find out more about features and benefits, to view sample data and to discuss how your organisation can access this pioneering service simply contact us by email at [enquiries@floodmonitoringservice.com](mailto:enquiries@floodmonitoringservice.com) or via:

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