

Research on Assessment & Management of Flooding Impacts to the Irish Road Network

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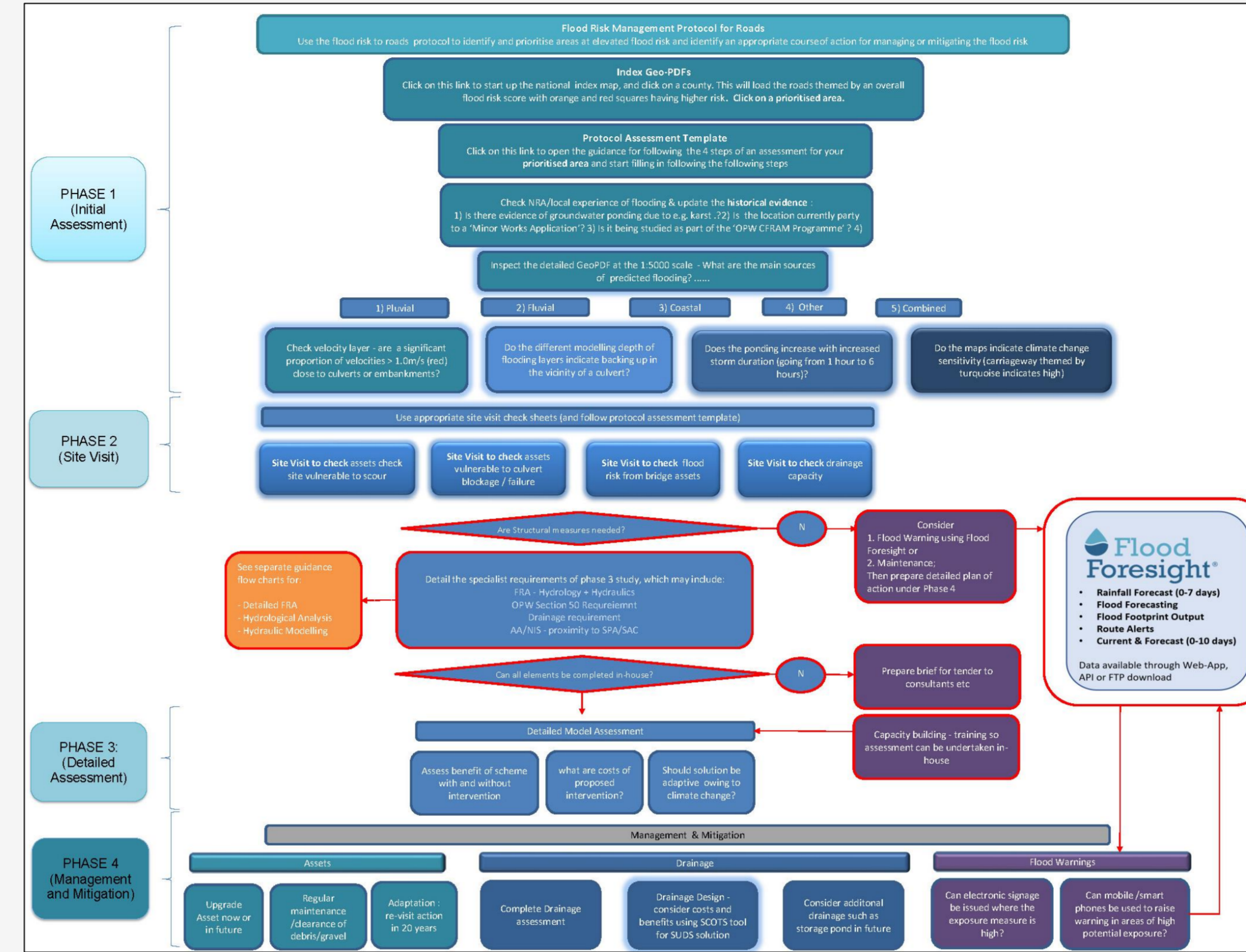
Background

From 2011 to 2018 JBA and TII have delivered a series of flood risk management deliverables:

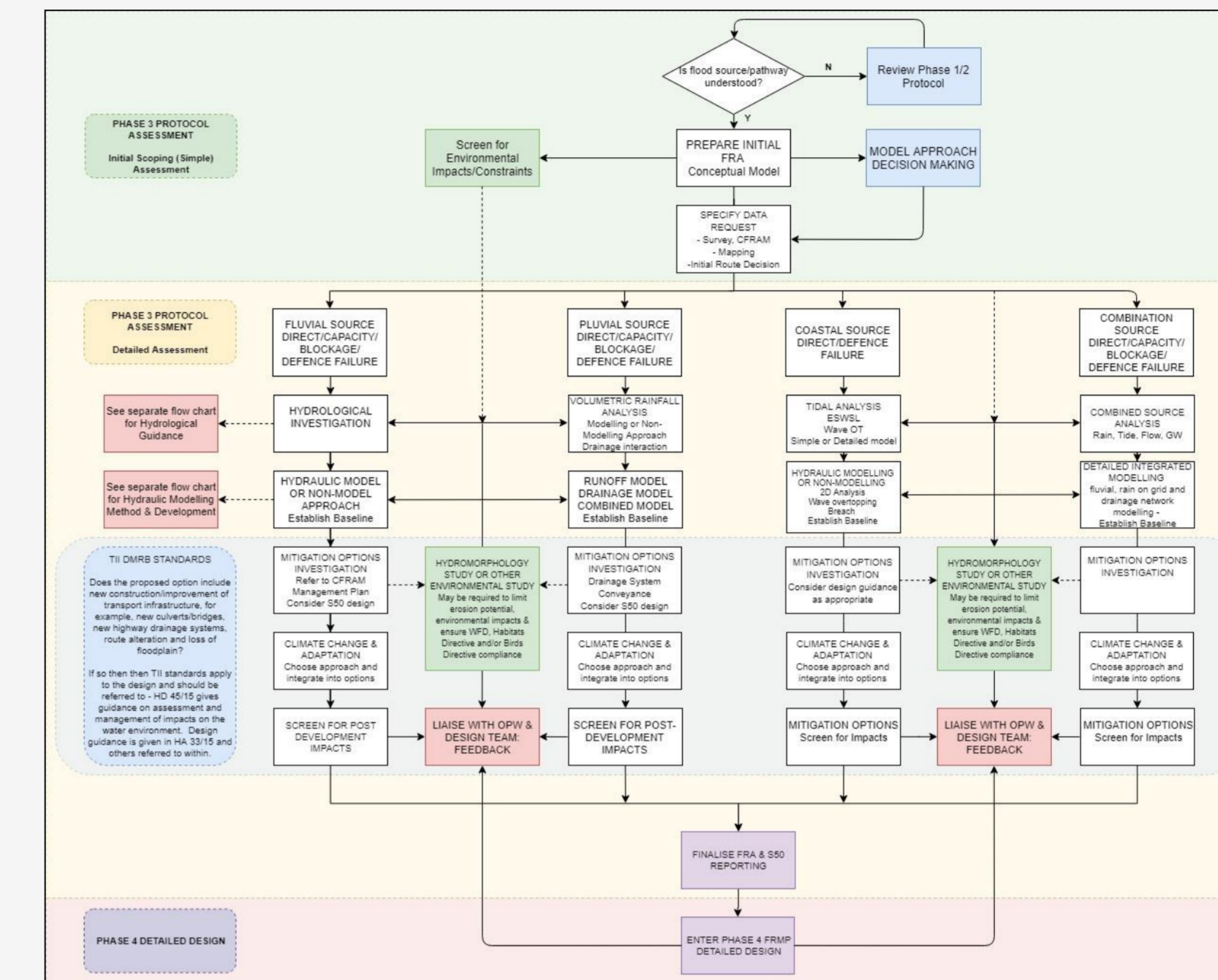
- Provided flood risk and hazard mapping of the entire TII route network.
- Developed a Flood Risk Management Protocol for the identification and mitigation of risk.
- Licensed a fluvial flood risk warning platform for the Irish Road Network called Flood Foresight. Issues flood warnings for riverine flooding to discreet road sections to allow for preparedness/action.
- Developed user guidance for specification of detailed Flood Risk Assessment studies.
- Provided training and tools for capacity building in the management of flood risk across the road network.

Flood Risk Management Protocol and Assessment Guidance

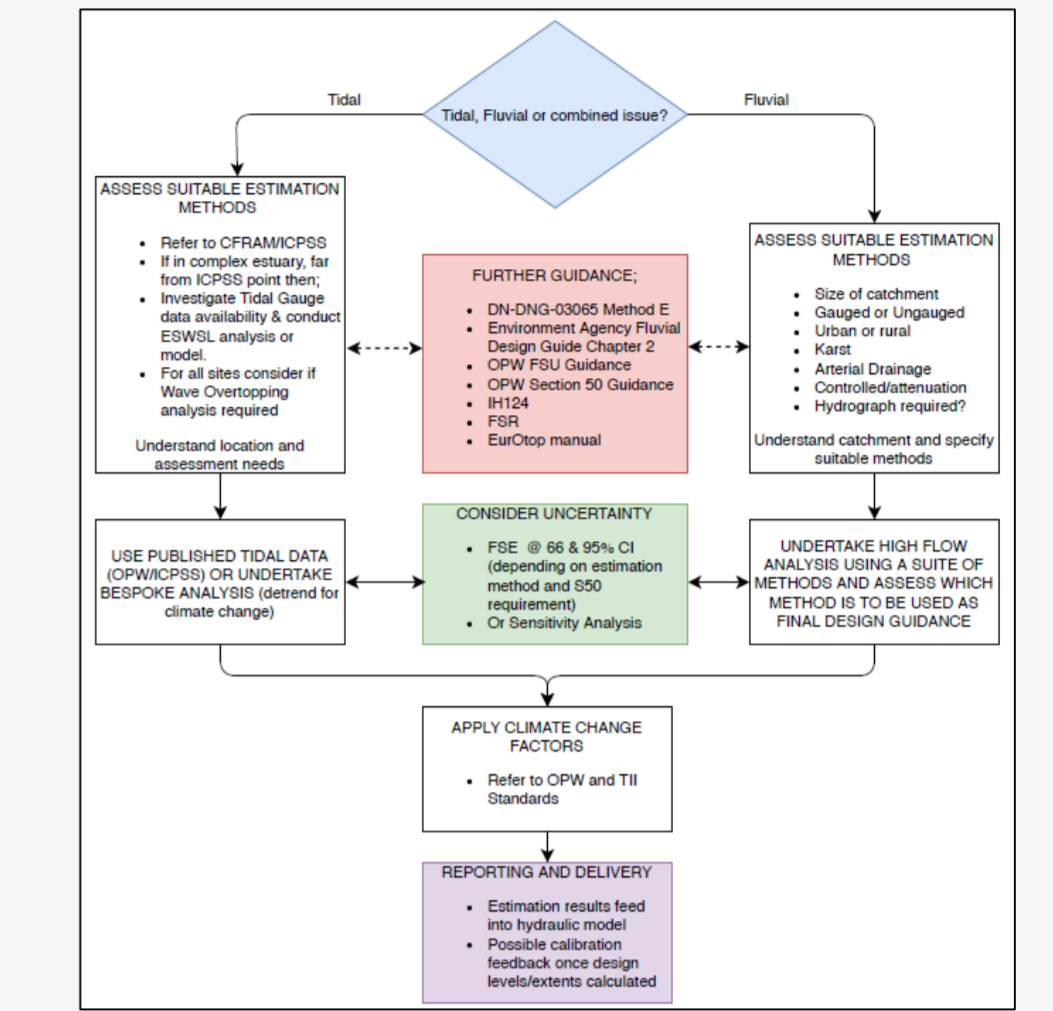
Risk Management Protocol



Detailed FRA Guidance

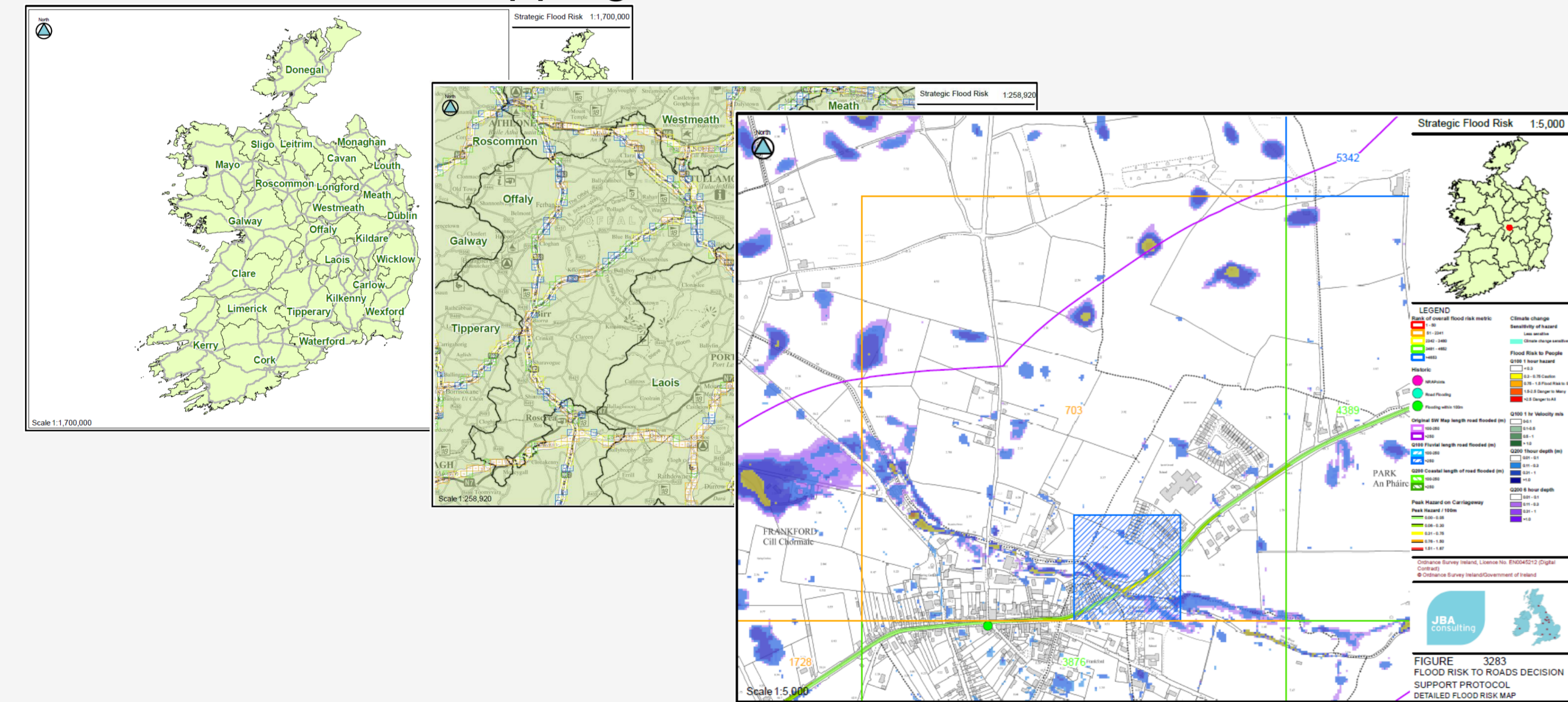


Hydrological Guidance



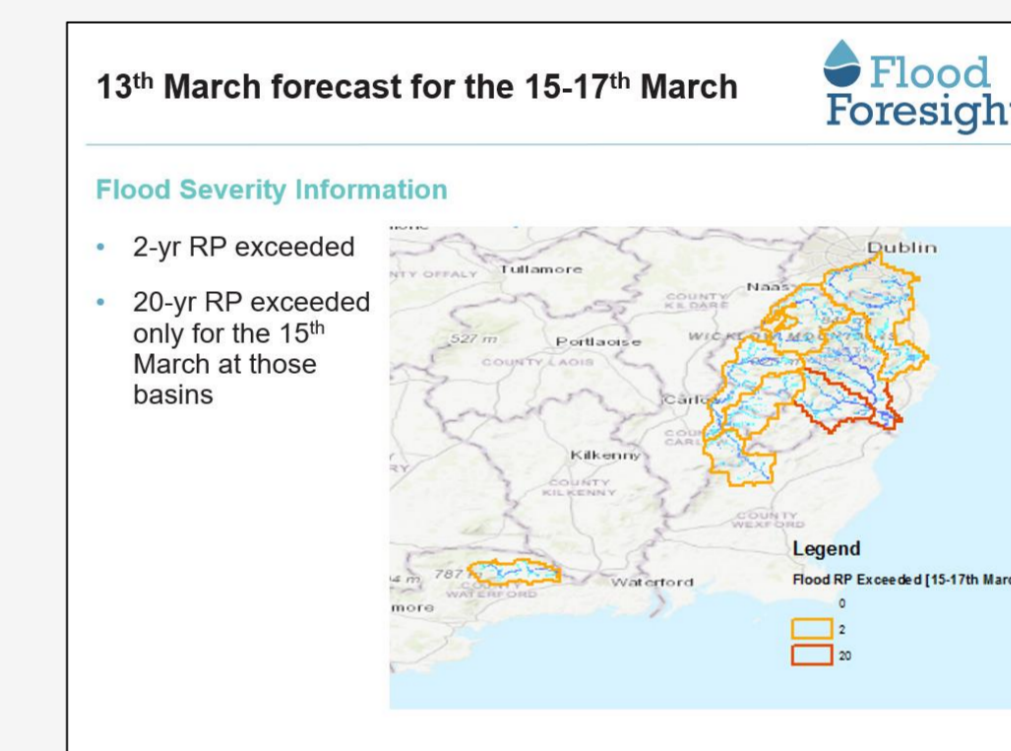
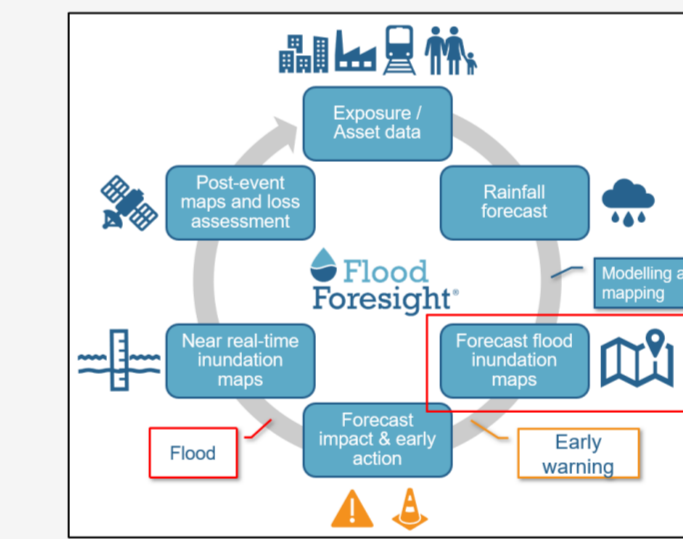
Flood Hazard and Risk Mapping

National route network modelled (circa 6,000km of roads), fluvial, tidal and surface water mapping.



Warning and Preparedness

Flood Foresight allows timely flood consequence prediction, allowing road managers time to prepare for flooding and has the potential to link with decision support systems and public facing warning platforms.



Case Studies

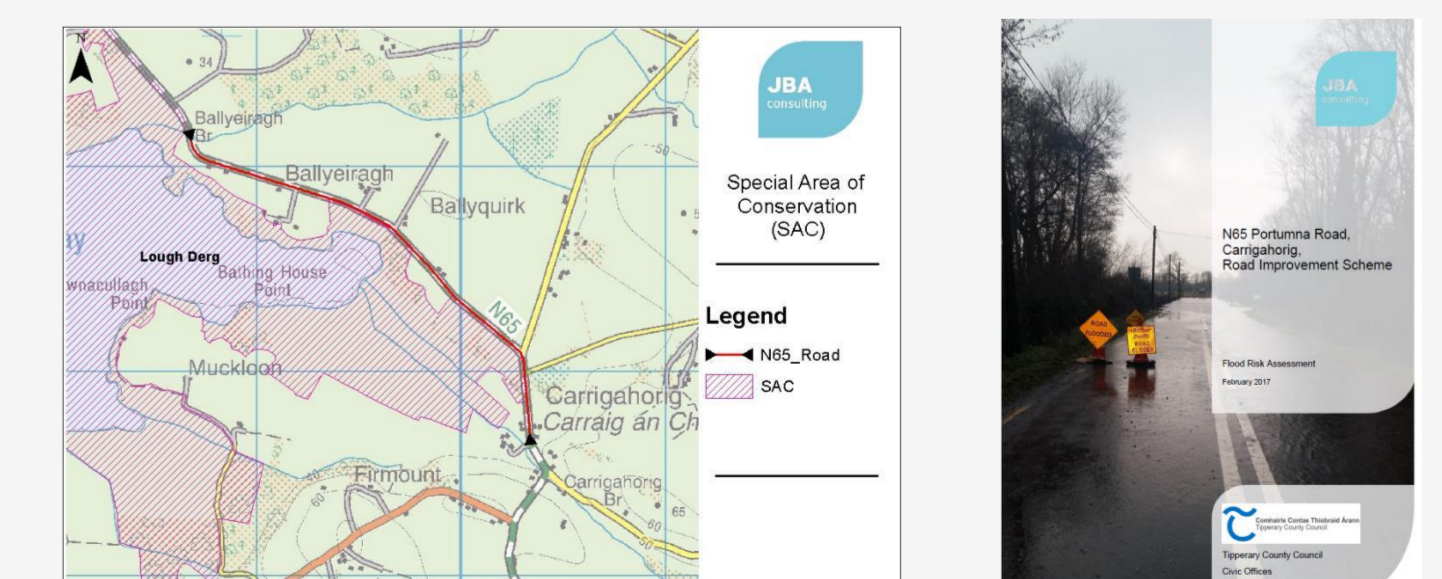
M4 County Kildare
Mitigation of fluvial & surface water flooding, third party overland flow inputs.



N85 County Clare
Road improvement scheme, increasing flooding and climate change resilience.



N65 County Tipperary
Road improvement scheme, lacustrine flooding and resilience.



Culvert Blockage Screening Analysis

Pilot screening process for 50 high risk culverts across Ireland. Analysis of impacts, maintenance and operational recommendations.

