

IV Jornadas do Potencial Técnico e Científico do IPCB

Sistema de Previsão e Alerta de Inundações para a zona urbana de Águeda

Flood Forecast and Alert System for Águeda Urban Area (FFAS)

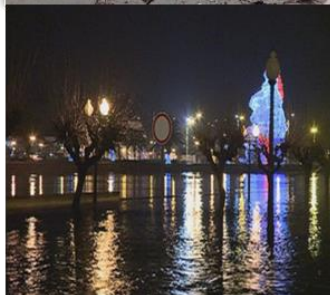
Paulo Fernandez

Cofinanciado por:



Consortium Members:

- Universidade de Aveiro - Escola Superior de Tecnologia e Gestão de Águeda (ESTGA)
- Instituto Politécnico de Leiria (IPLeiria)
- Instituto Politécnico de Castelo Branco (IPCB)
- Câmara Municipal de Águeda (CMA)



Consortium and Team

Team from ESTGA:

- Luísa Pereira
- Fábio Marques
- Jorge Matos
- Manuel Venâncio



Team from IPLeiria:

- Sandra Mourato
- João Pescada



Team from IPCB:

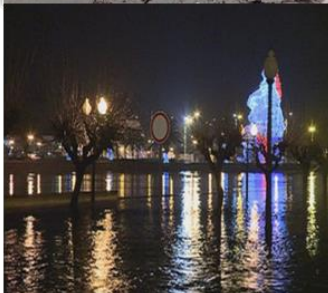
- Paulo Fernandez



Team from CMA:

- Miguel Tavares

IPCB



Consultors and Collaborators

- Chris Goodell - Senior Hydraulic Engineer, West Consultants. Portland, USA
- Alfredo Rocha - Professor Associado, Universidade Aveiro



Details

- **Call:** Sistema de Apoio à Investigação Científica e Tecnológica (SAICT) - Projetos de Investigação Científica e Desenvolvimento Tecnológico
- **Starting date:** 18 September 2017
- **End date:** 17 March 2019
- **This work is supported by:** European Investment Funds by FEDER/COMPETE/POCI Operational Competitiveness and Internationalization Program, under POCentro-PT2020-FEDER project CENTRO-01-0145-FEDER-023566
- Financed by the POCentro in its FEDER component in the amount of 149.945 € for a total of 150.000 €.

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21.fevereiro.2018

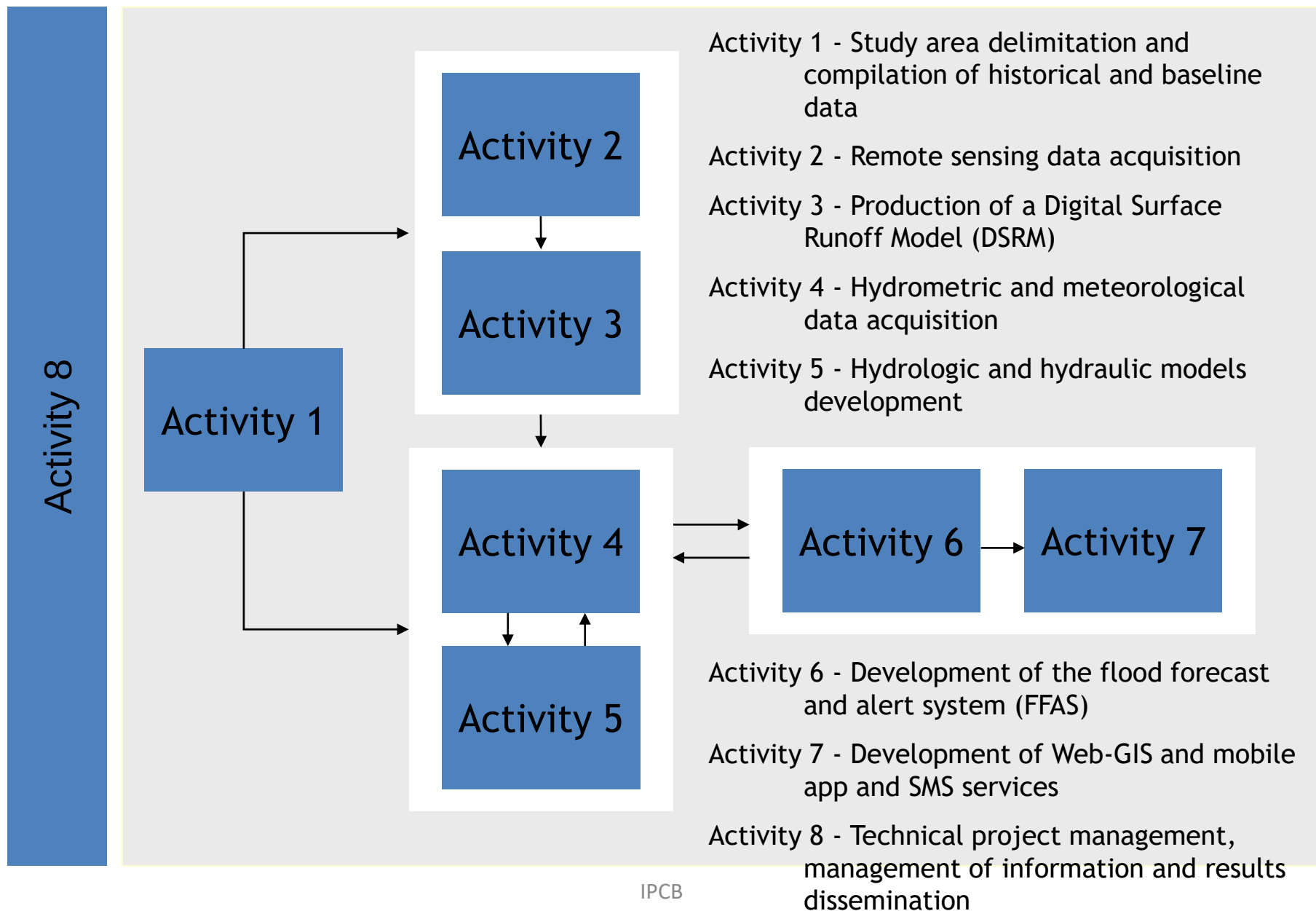


Objectives

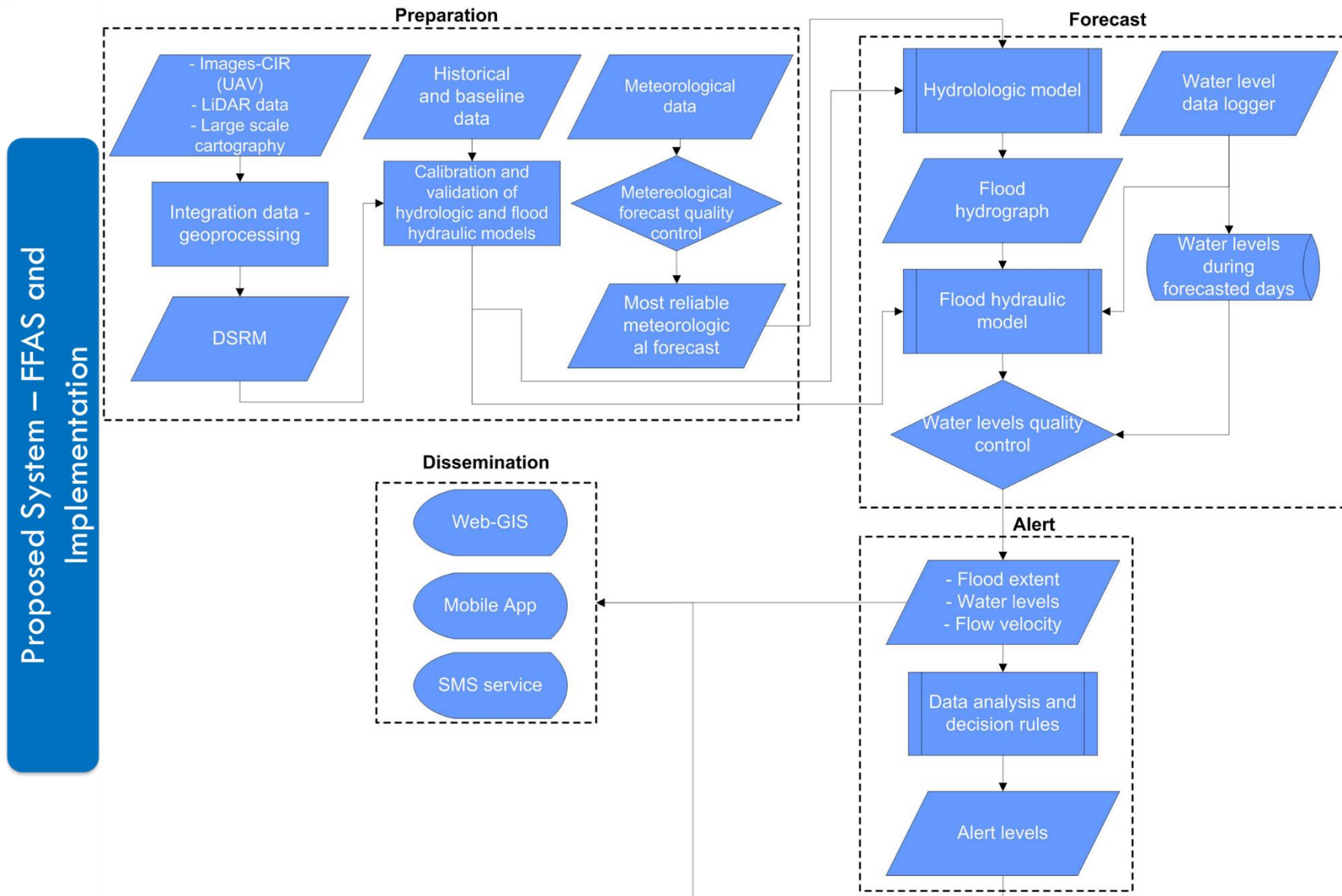
- The objective of this project is thus to **improve flood prevention and mitigate economic losses** of inhabitants in flood - prone areas of Águeda Municipality by developing a Flood Forecast and Alert System (FFAS).
- FFAS intends to **reduce direct tangible and intangible costs** (physical damage in buildings and infrastructure, loss of human life and of environmental resources) and **indirect tangible and intangible costs** (production losses of companies directly affected by floods, inconvenience at post-flood).



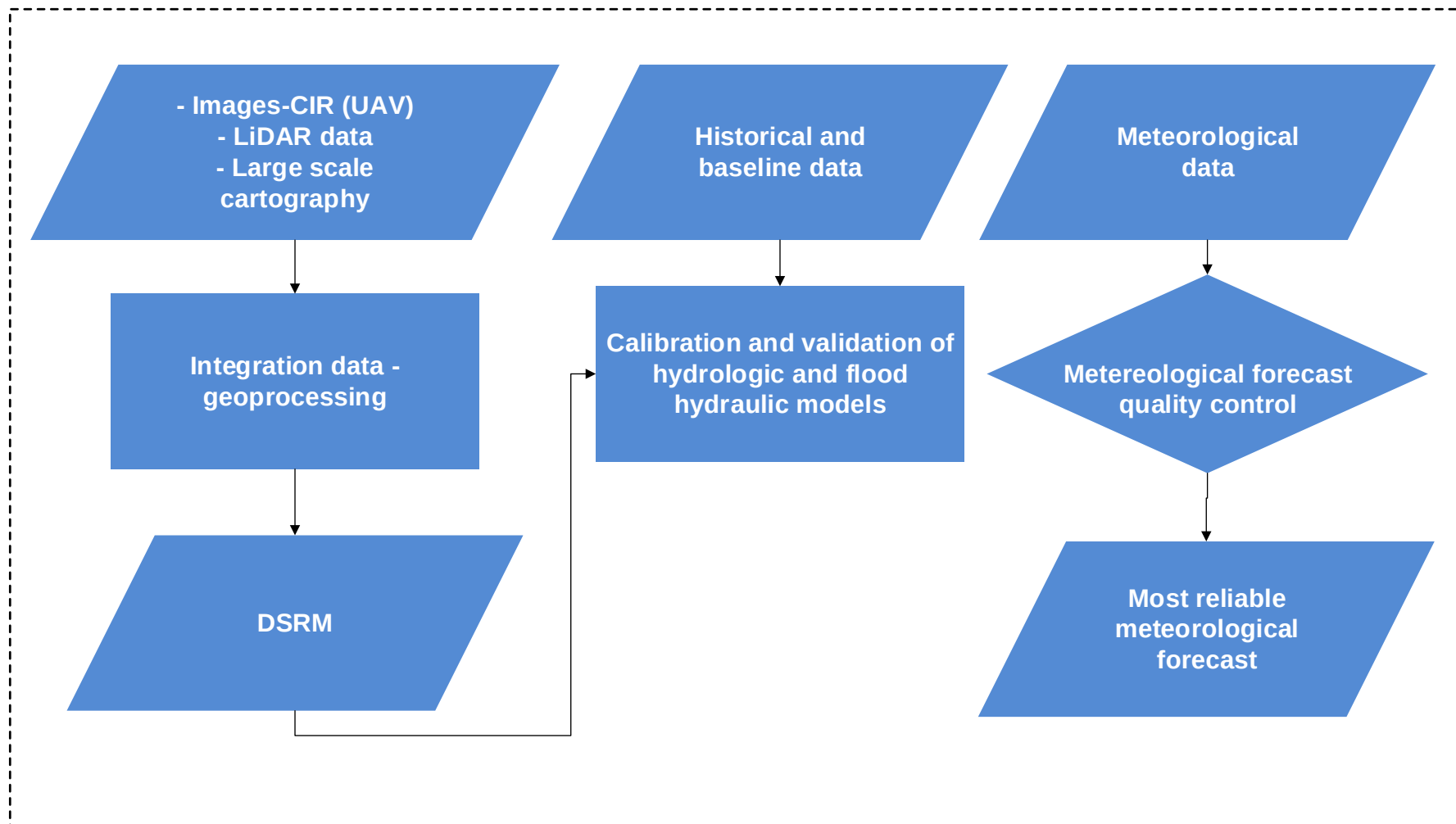
Implementation



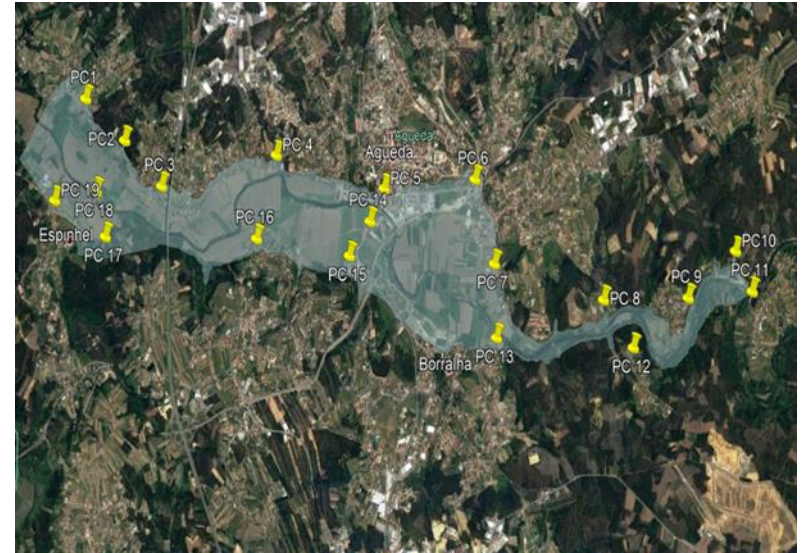
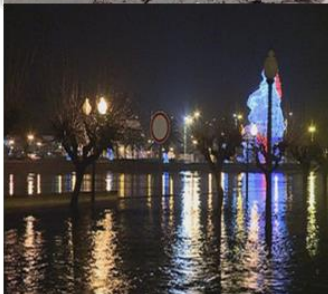
The System



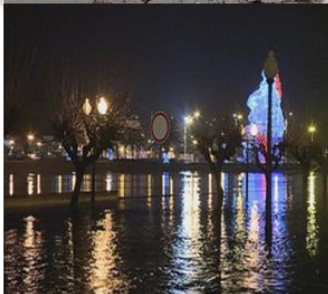
FFAS - Preparation



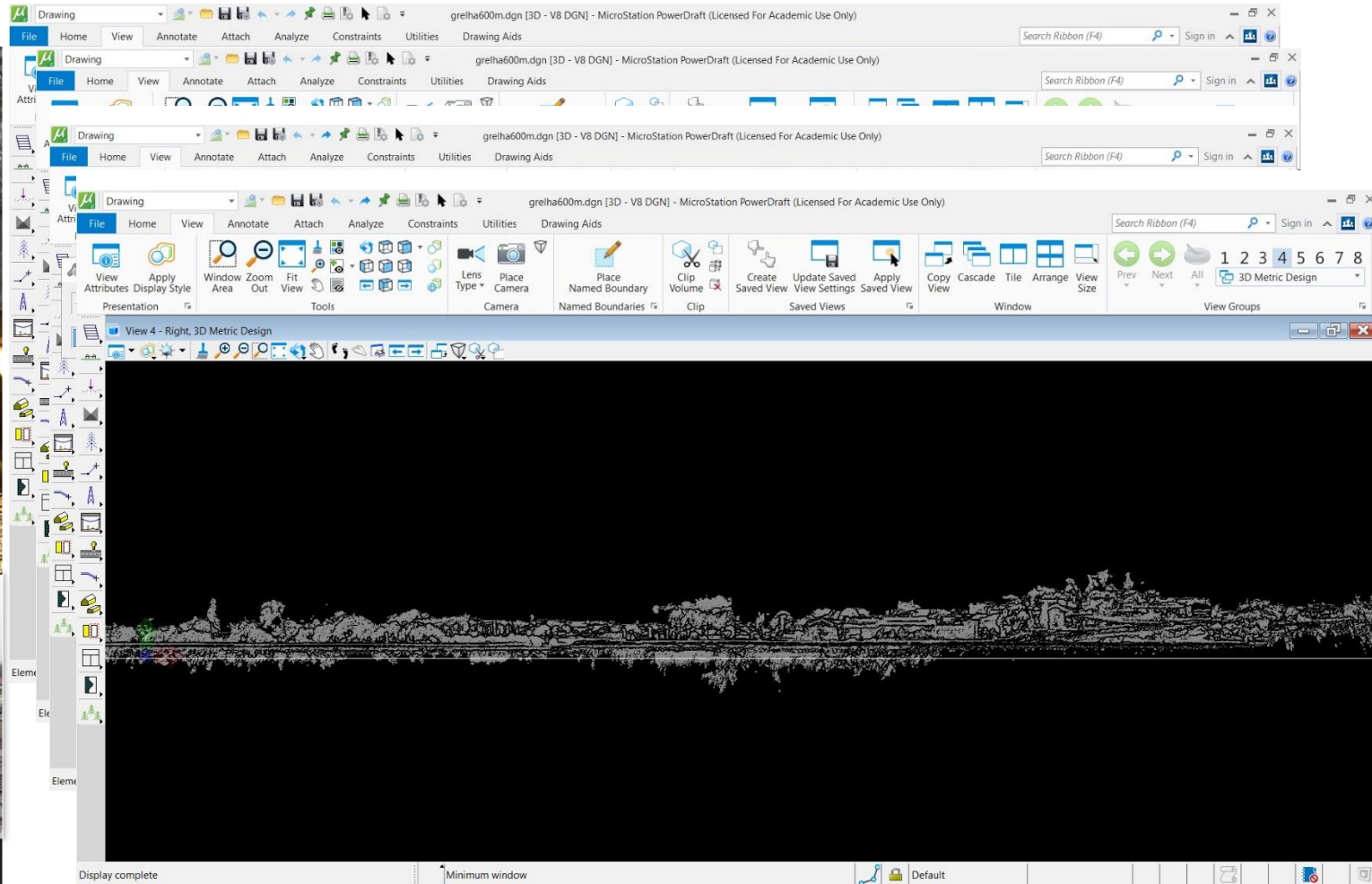
FFAS - Preparation



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FFAS - Preparation

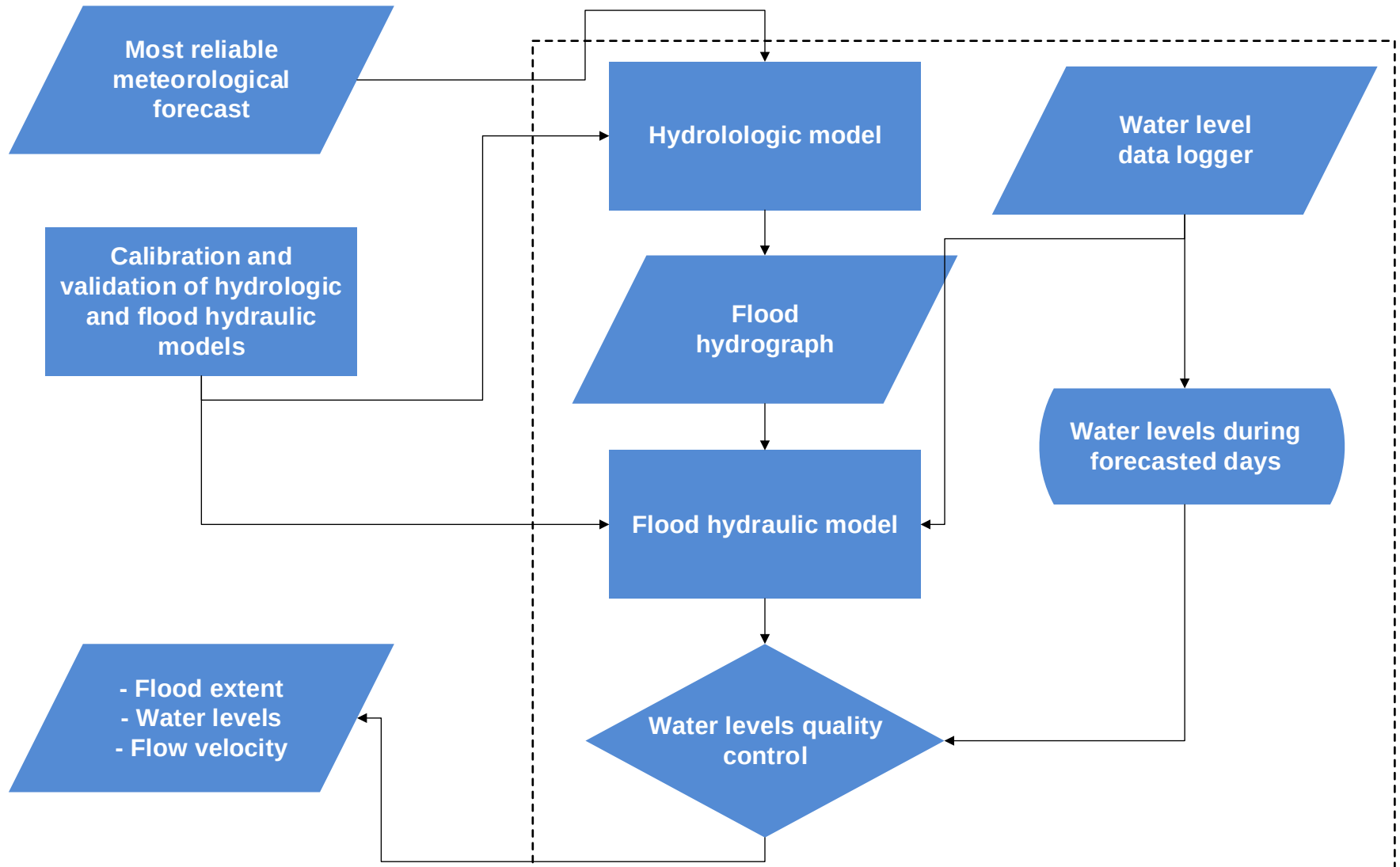


Filtering point clouds

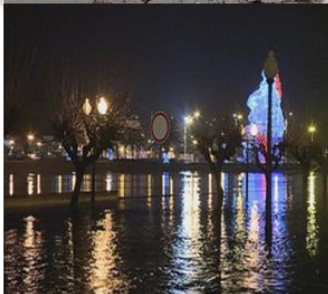
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FFAS - Forecast



FFAS - Forecast



FFAS - Forecast

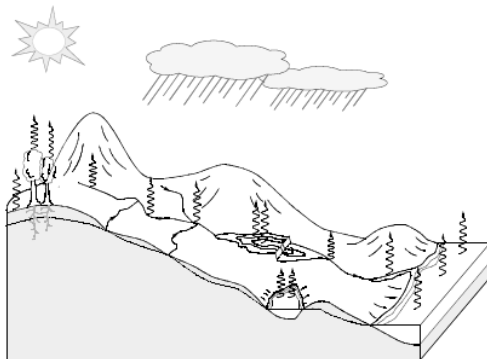




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Hydrologic Engineering Center

Hydrologic Modeling System HEC-HMS



User's Manual

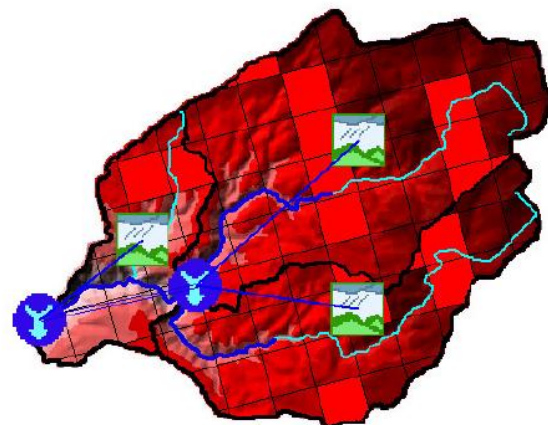
Version 4.2
August 2016



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HEC-GeoHMS Geospatial Hydrologic Modeling Extension



User's Manual

Version 10.1
February 2013



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HEC-RAS River Analysis System



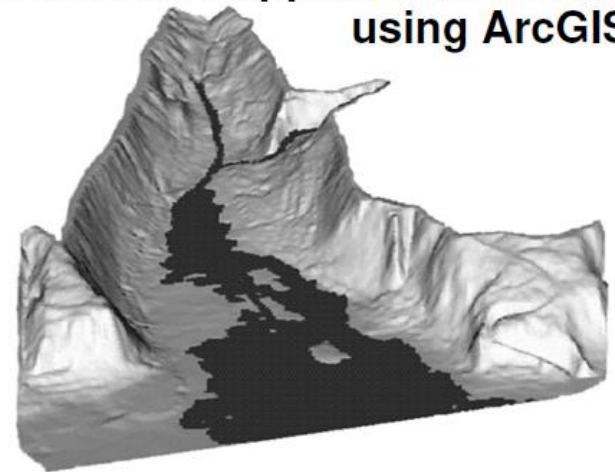
2D Modeling User's Manual

Version 5.0
February 2016



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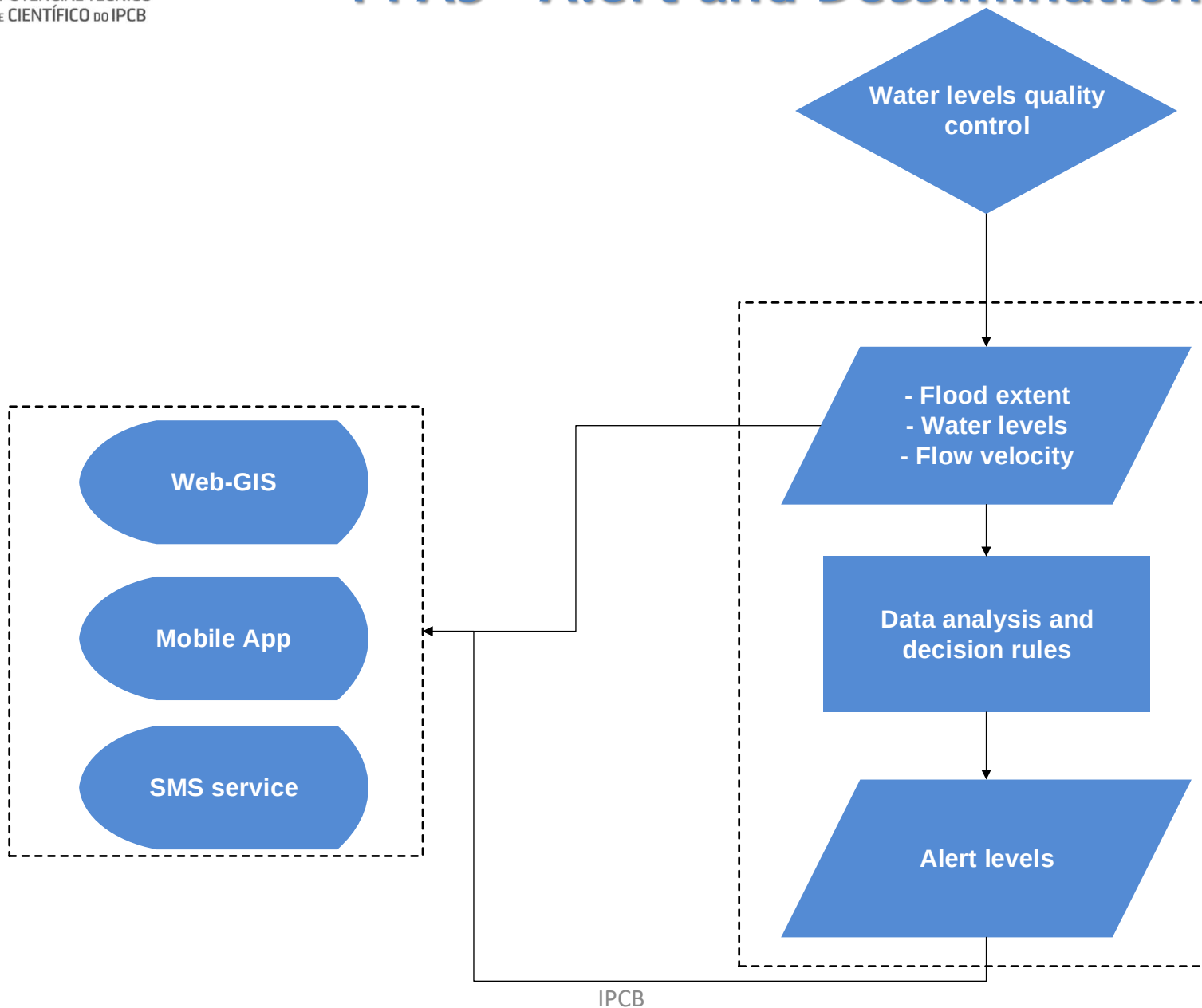
HEC-GeoRAS GIS Tools for Support of HEC-RAS using ArcGIS®



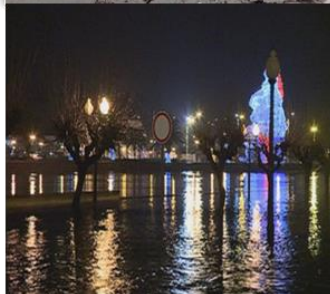
User's Manual

Version 4.3.93
February 2011

FFAS - Alert and Dessimination



Results dissemination



Fernandez, P., Pereira, L.G., Mourato, S., Moreira, M., Matos, J. 2018. **Assessing the suitability of DSM and DTM produced with high resolution UAV images for flood modelling.** Sixth International Conference on Remote Sensing and Geoinformation of the Environment 2018, 26-29 March 2018, Paphos, Cyprus.

Pereira, L.G., Mourato, S., Fernandez, P., Marques, F., Tavares, M., Rocha, A., 2018. **Flood forecast and alert system for Águeda urban area.** Sixth International Conference on Remote Sensing and Geoinformation of the Environment 2018, 26-29 March 2018, Paphos, Cyprus.

Obrigado



Sistema de Previsão e Alerta de Inundações para a zona urbana de Águeda

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<http://ffas.web.ua.pt>

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