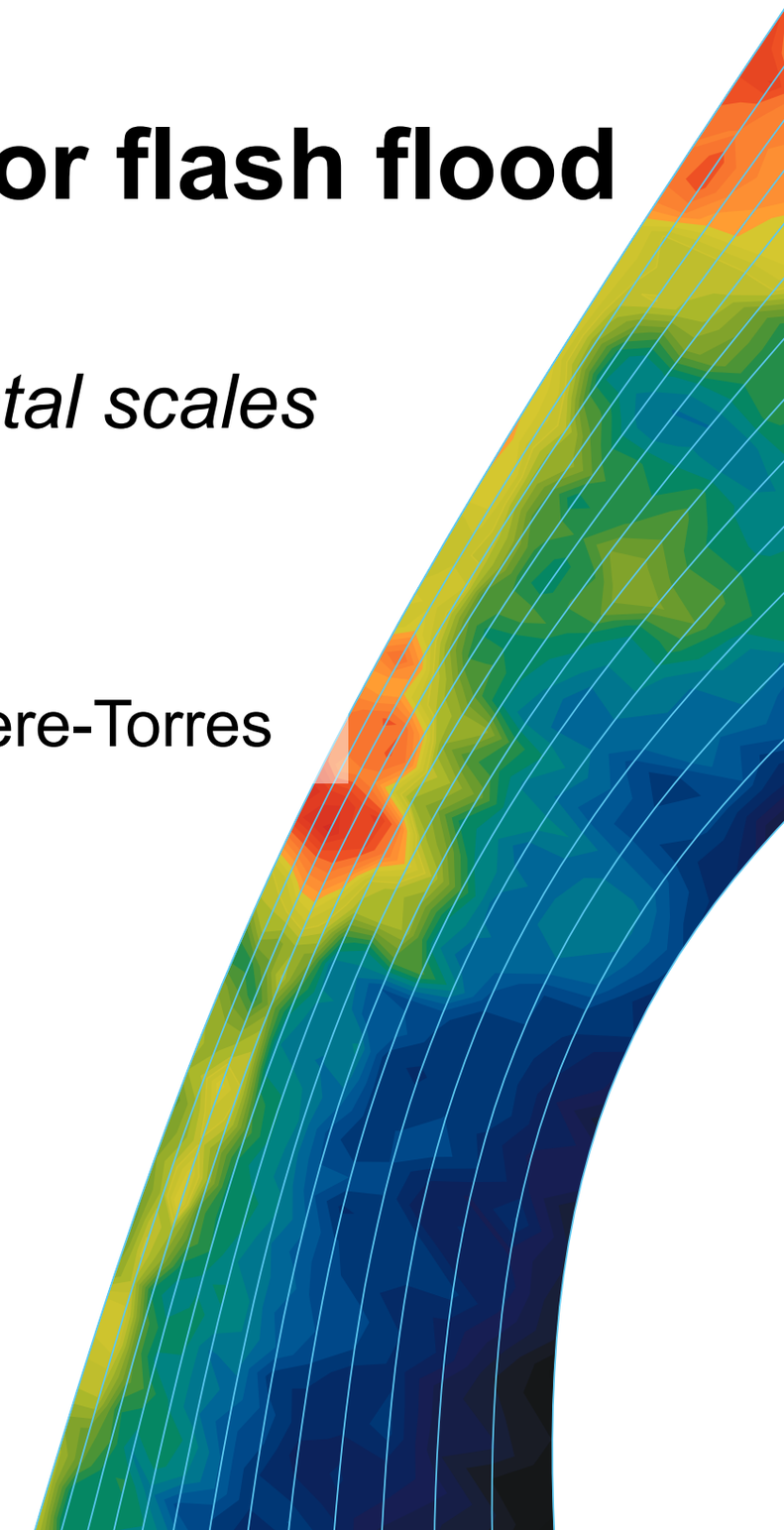
Centre de Recerca Aplicada
en Hidrometeorologia
UNIVERSITAT POLITÈCNICA DE CATALUNYA

Radar-based rainfall nowcasting for flash flood hazard assessment

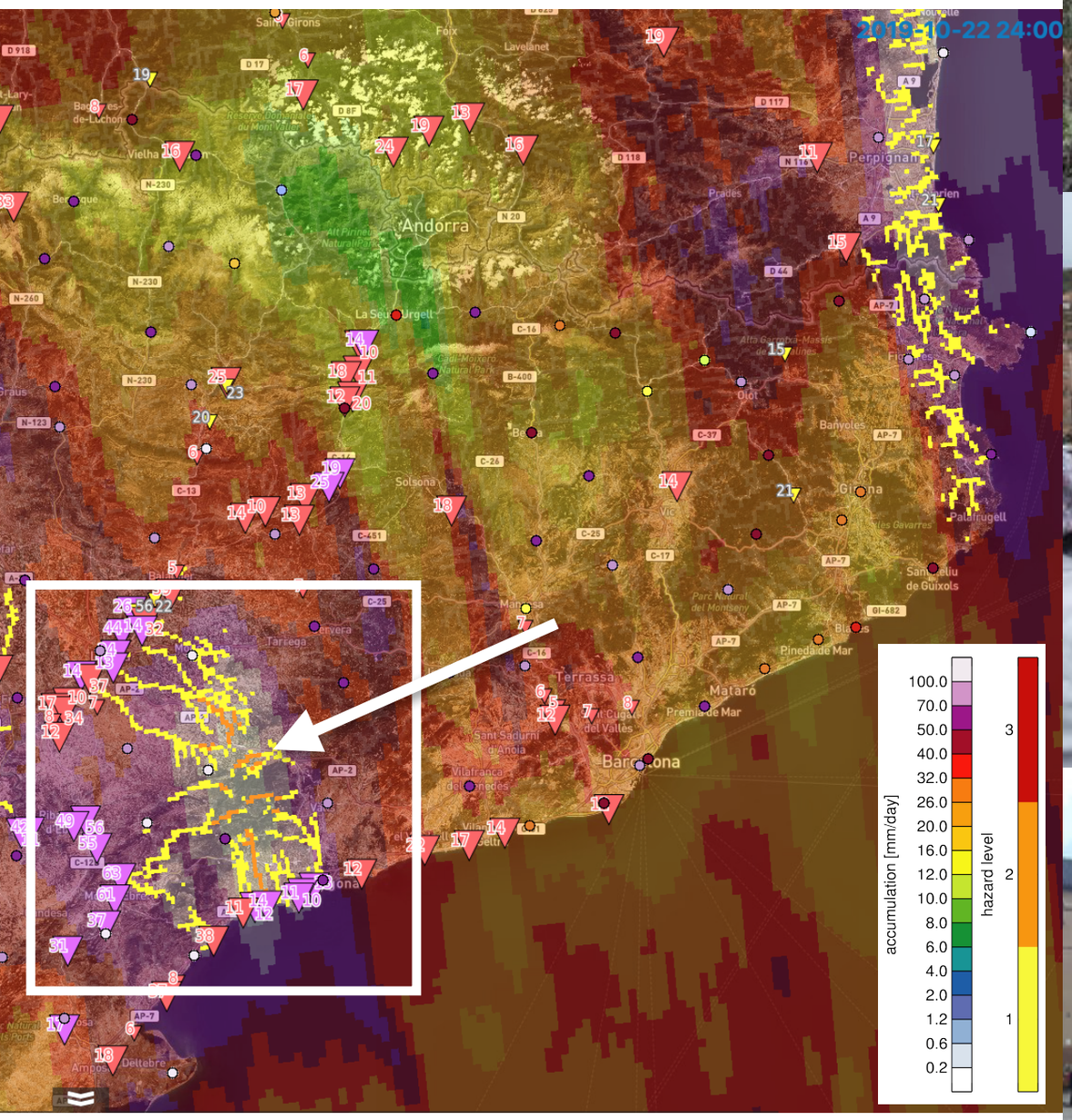
recent results at regional and Continental scales

Marc Berenguer, Shinju Park, Daniel Sempere-Torres



Francolí (Spain) 22-23 Oct 2019

ERICHA flood hazard superimposed on OPERA rainfall accumulation



Park et al. (Journal of Hydology 2019)
Corral et al. (Journal of Hydrology 2019)

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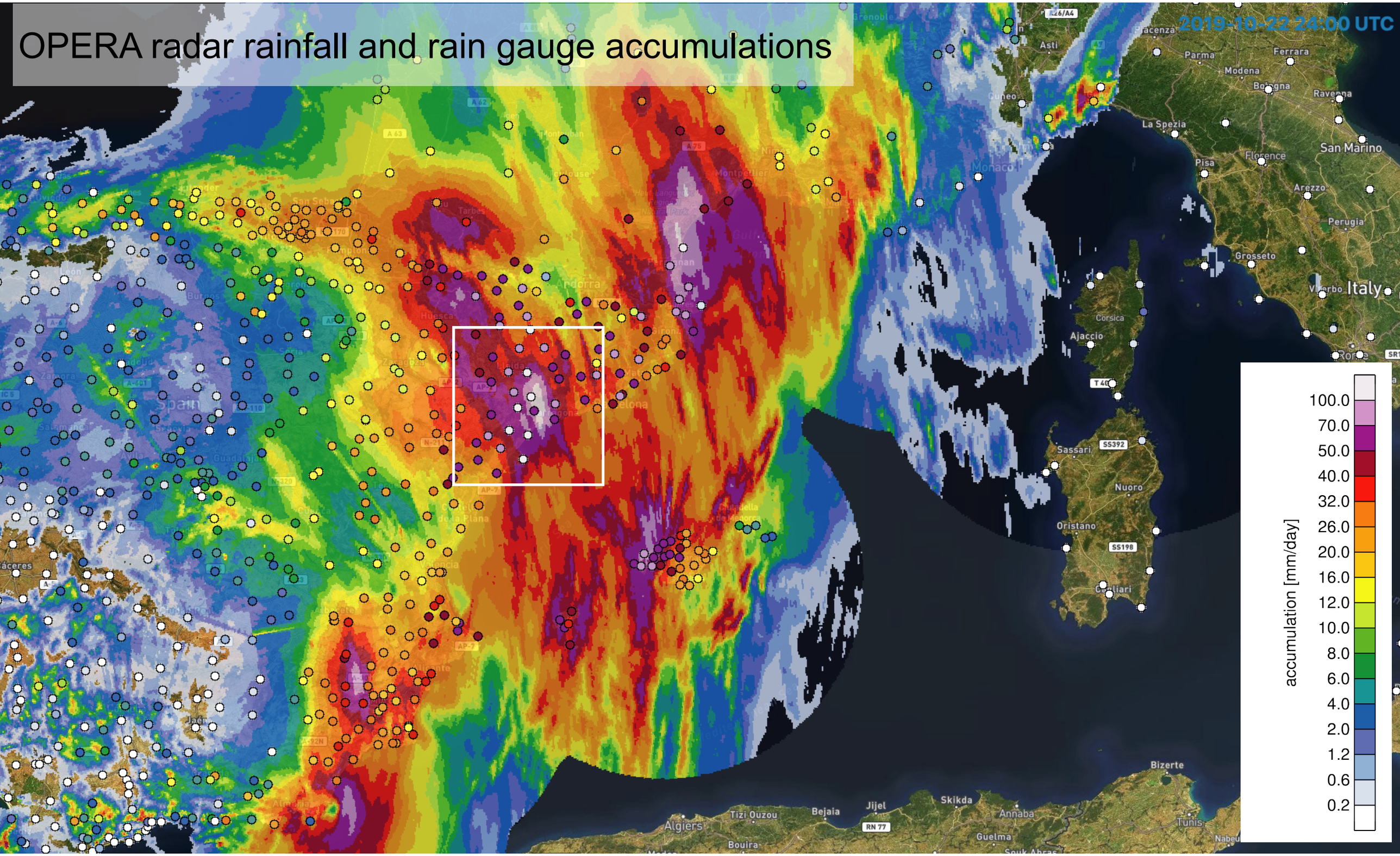
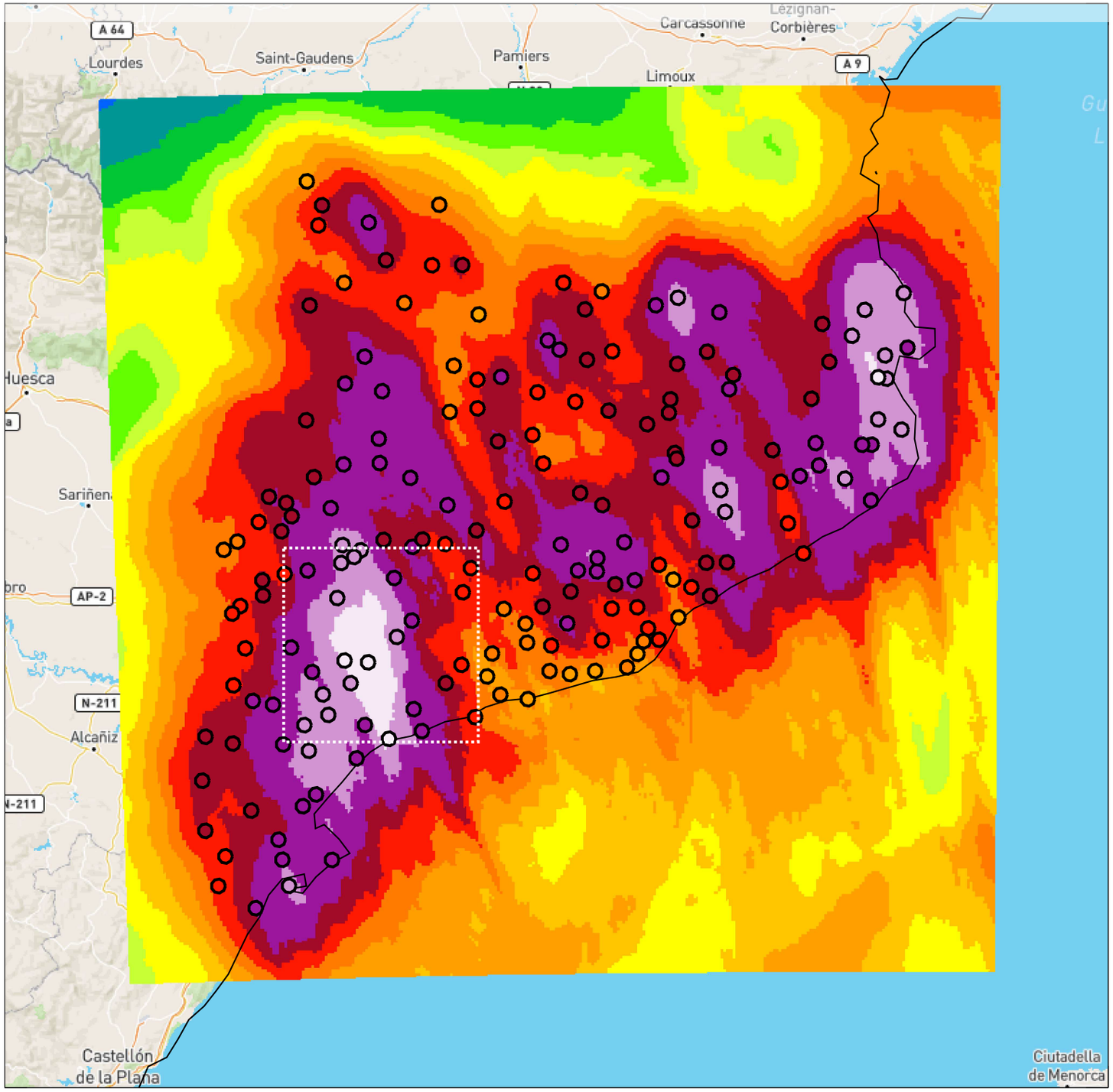
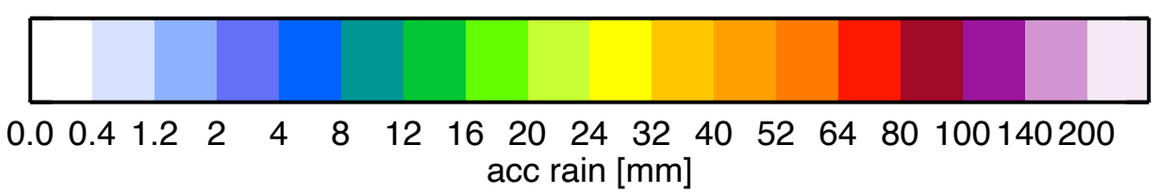


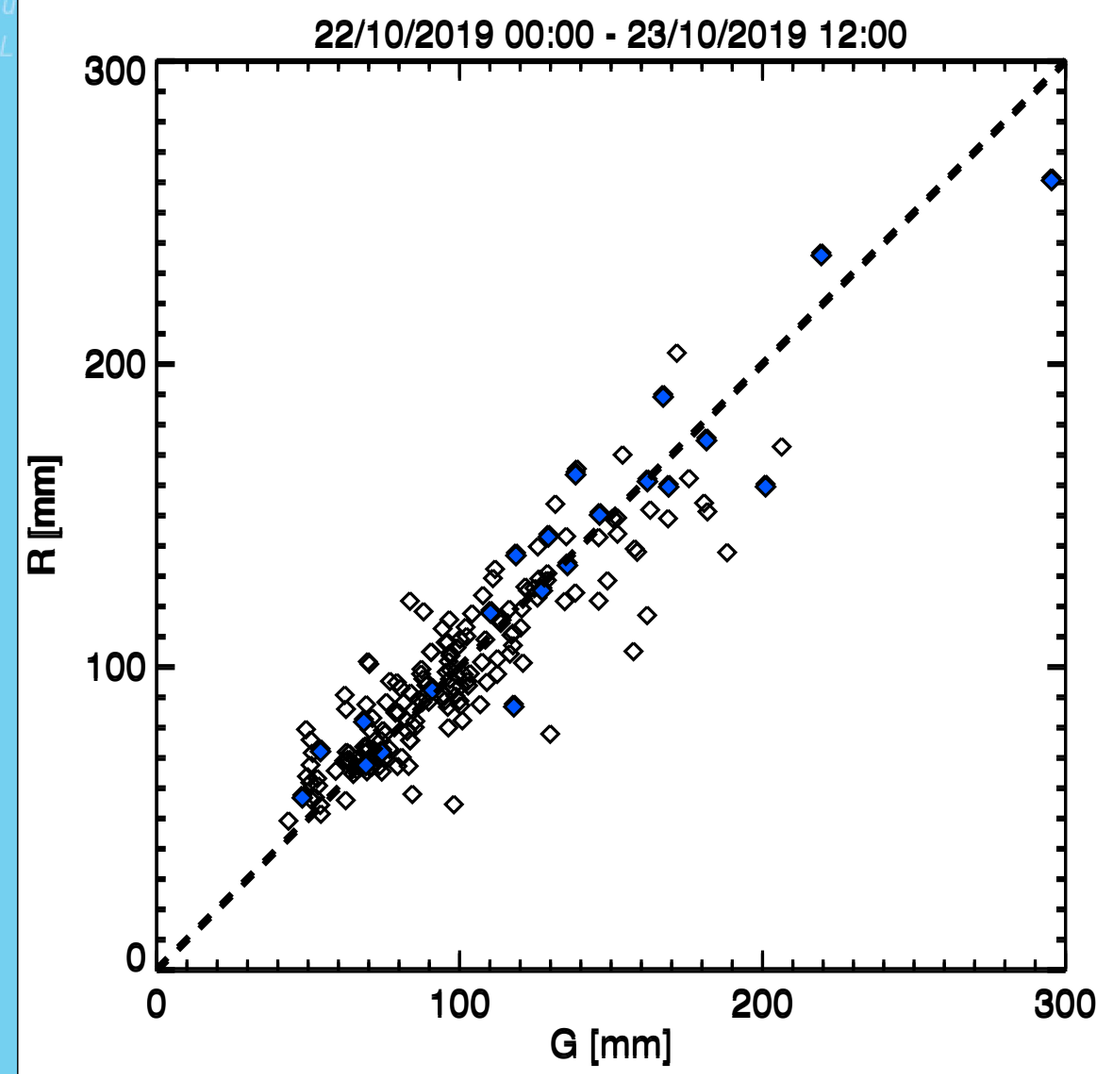
Francolí (Spain) 22-23 Oct 2019

Improved radar-raingauge blending accumulation



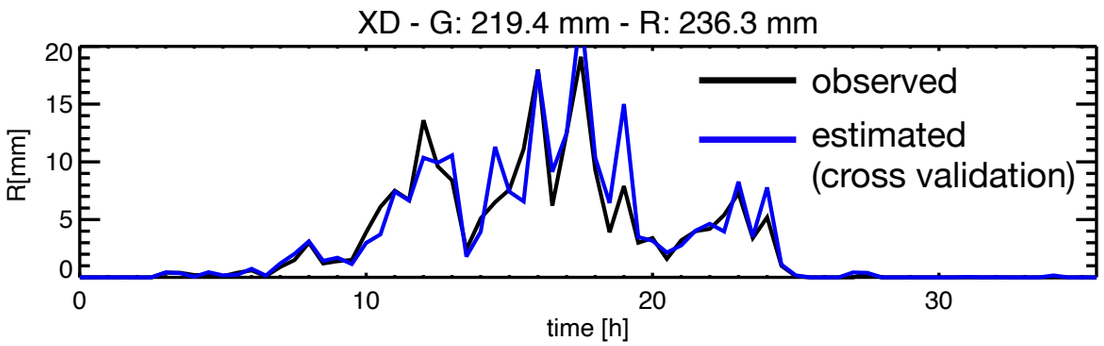


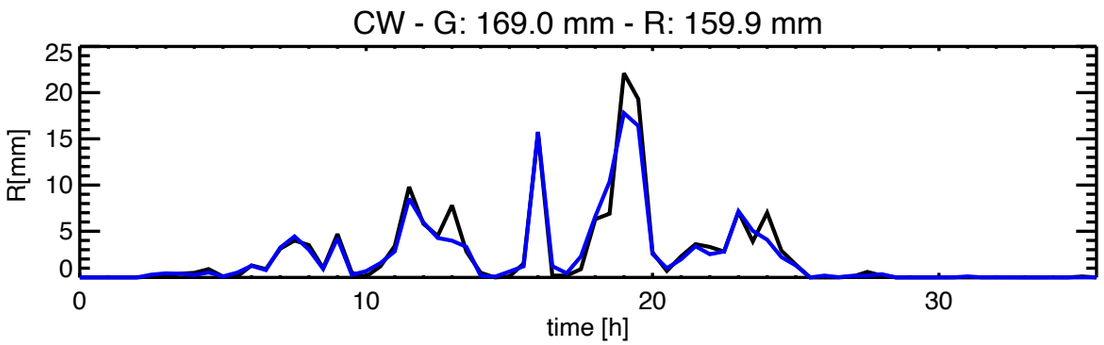
cross-validation R-G comparison

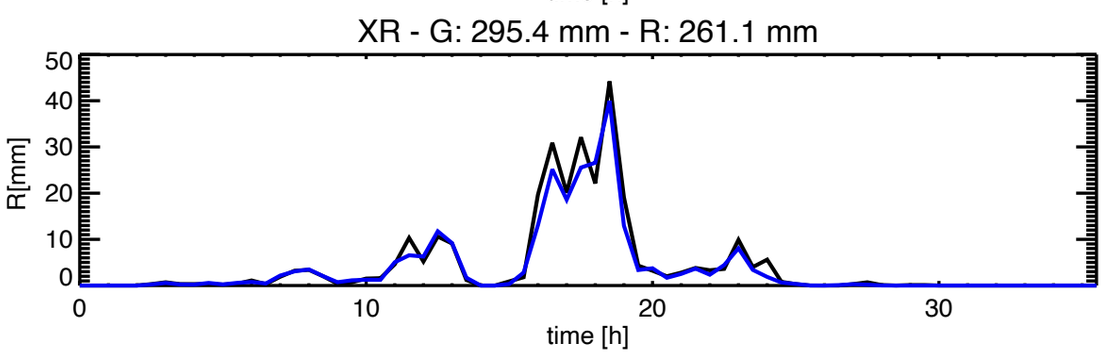


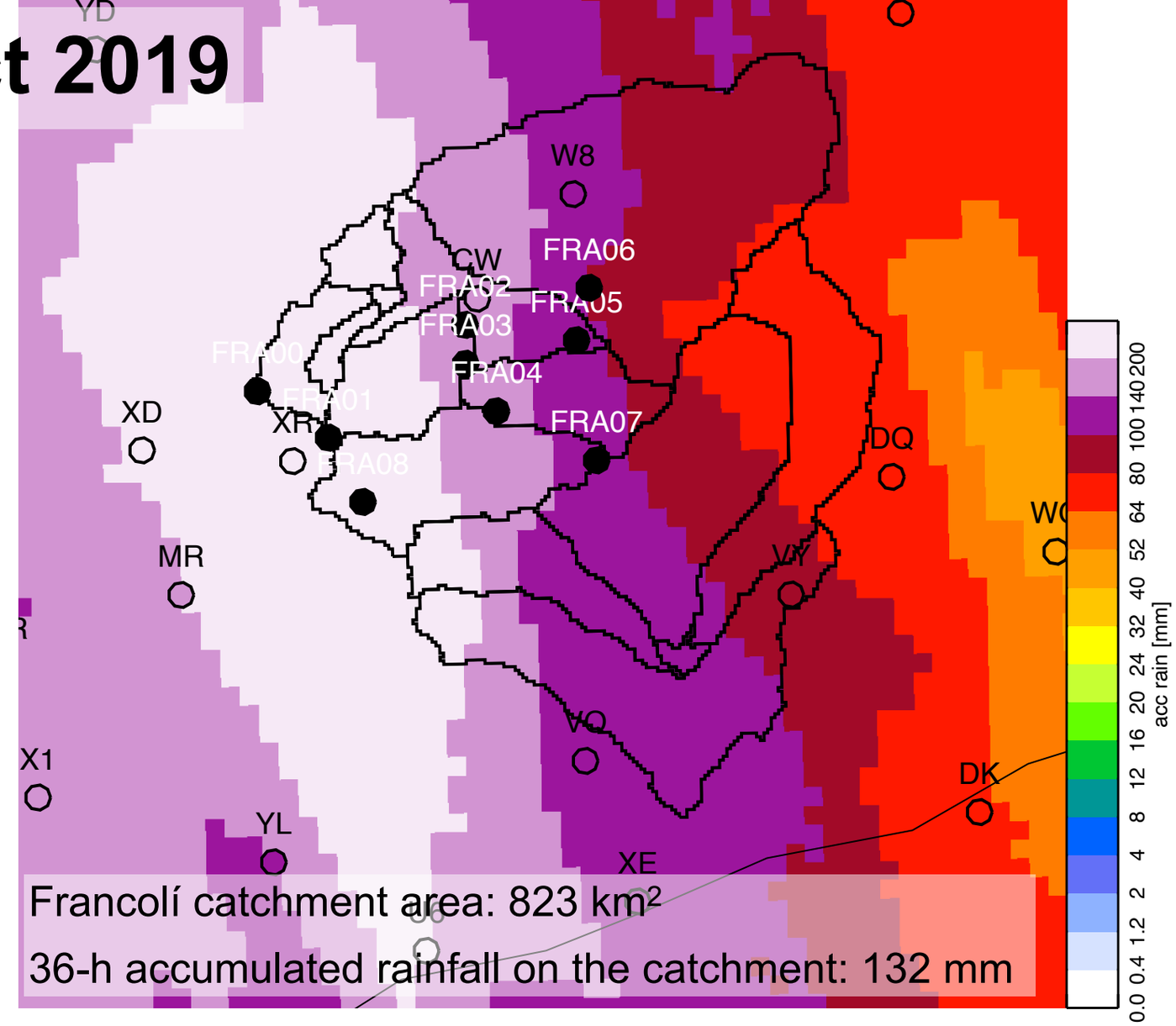
Francolí (Spain) 22-23 Oct 2019

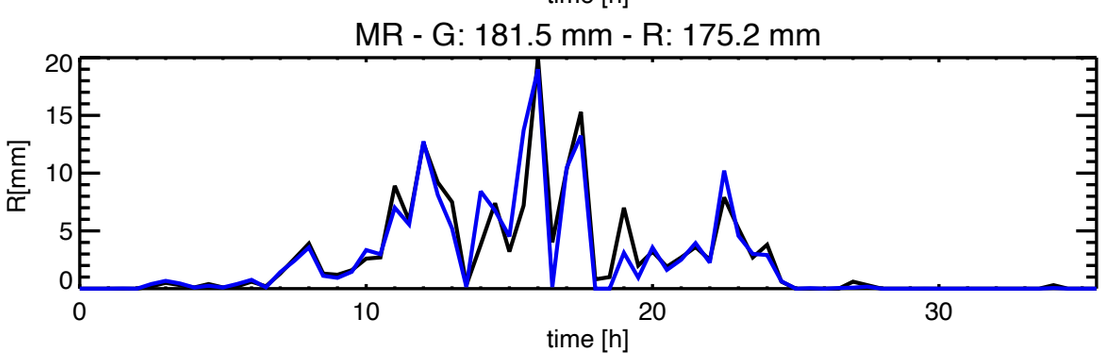
radar-raingauge blending time series

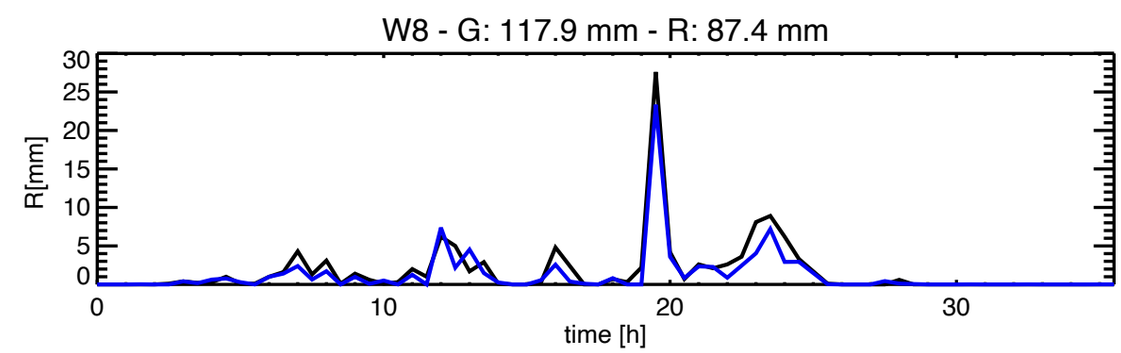


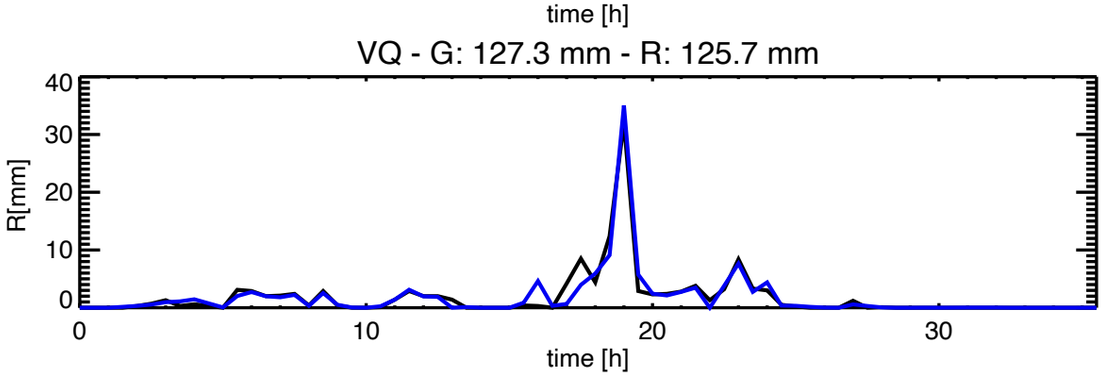


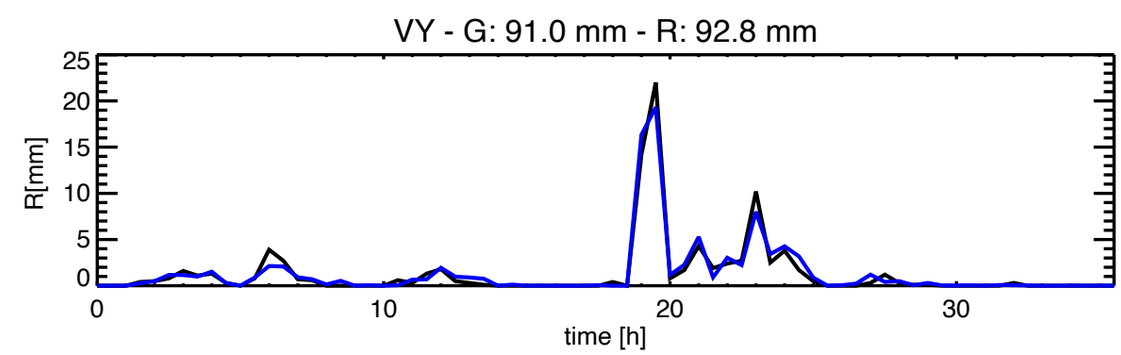












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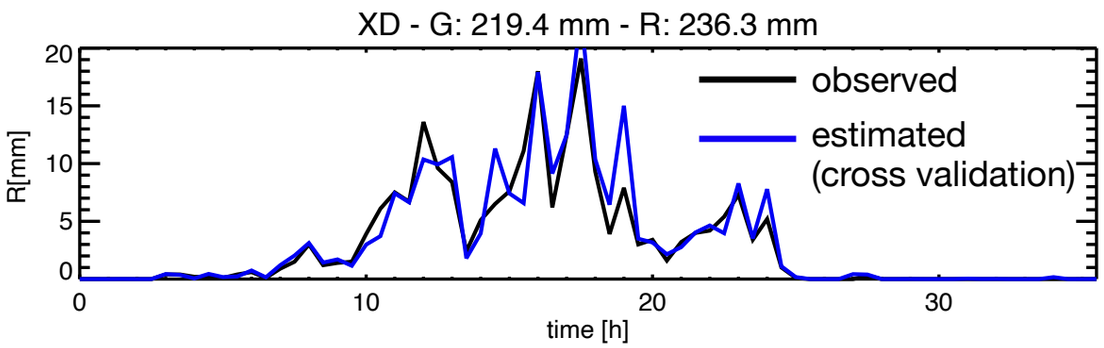
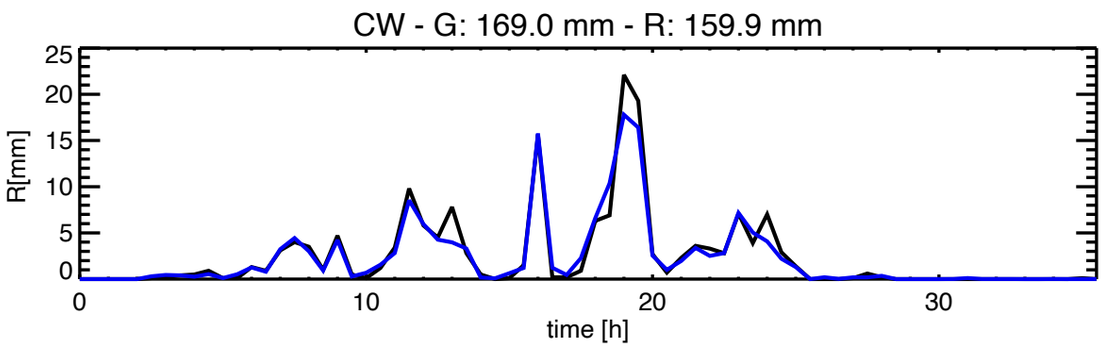
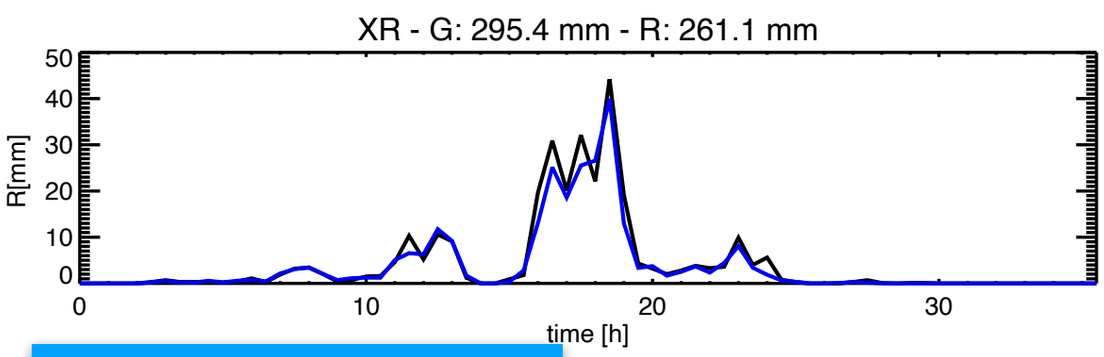
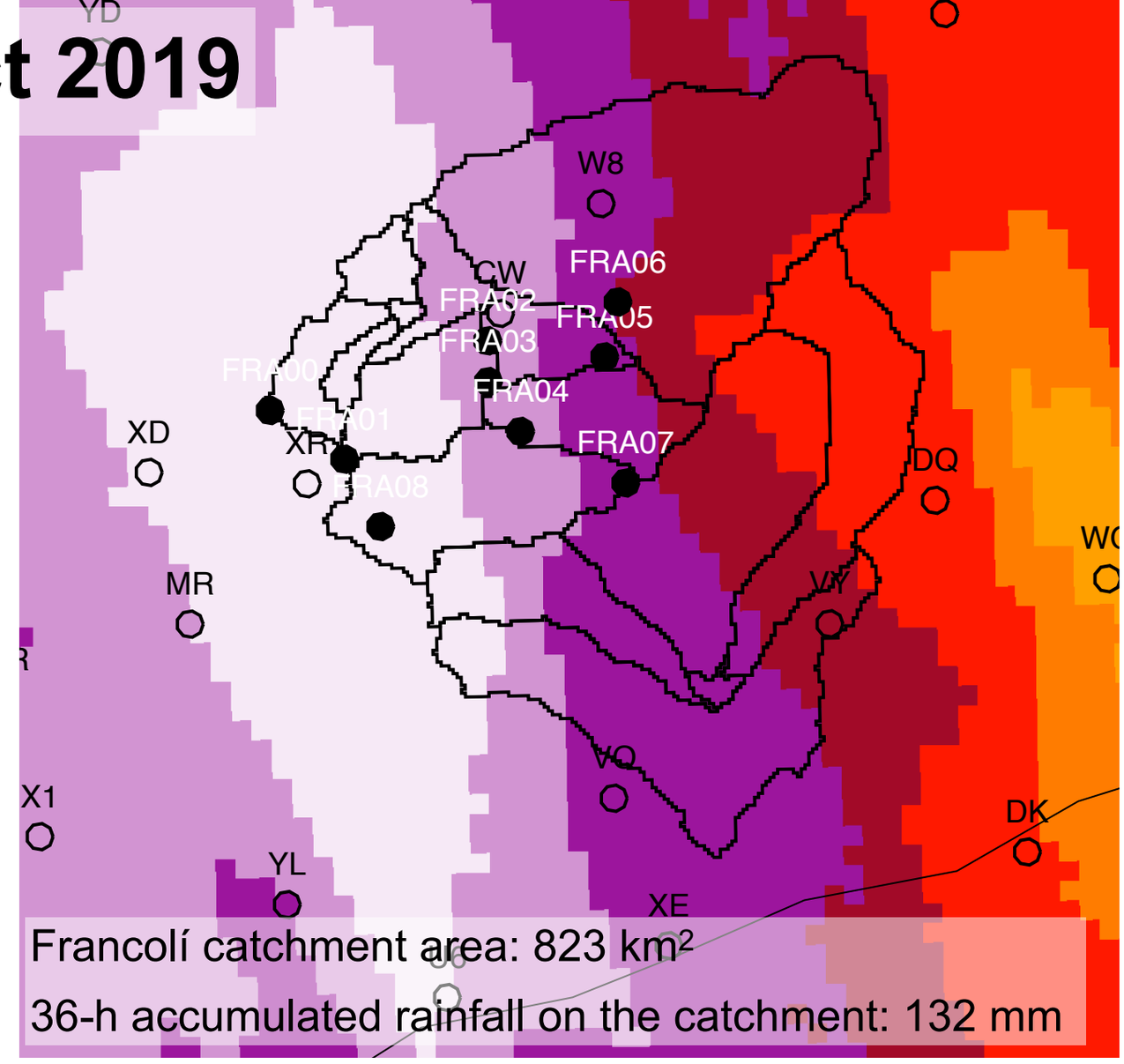
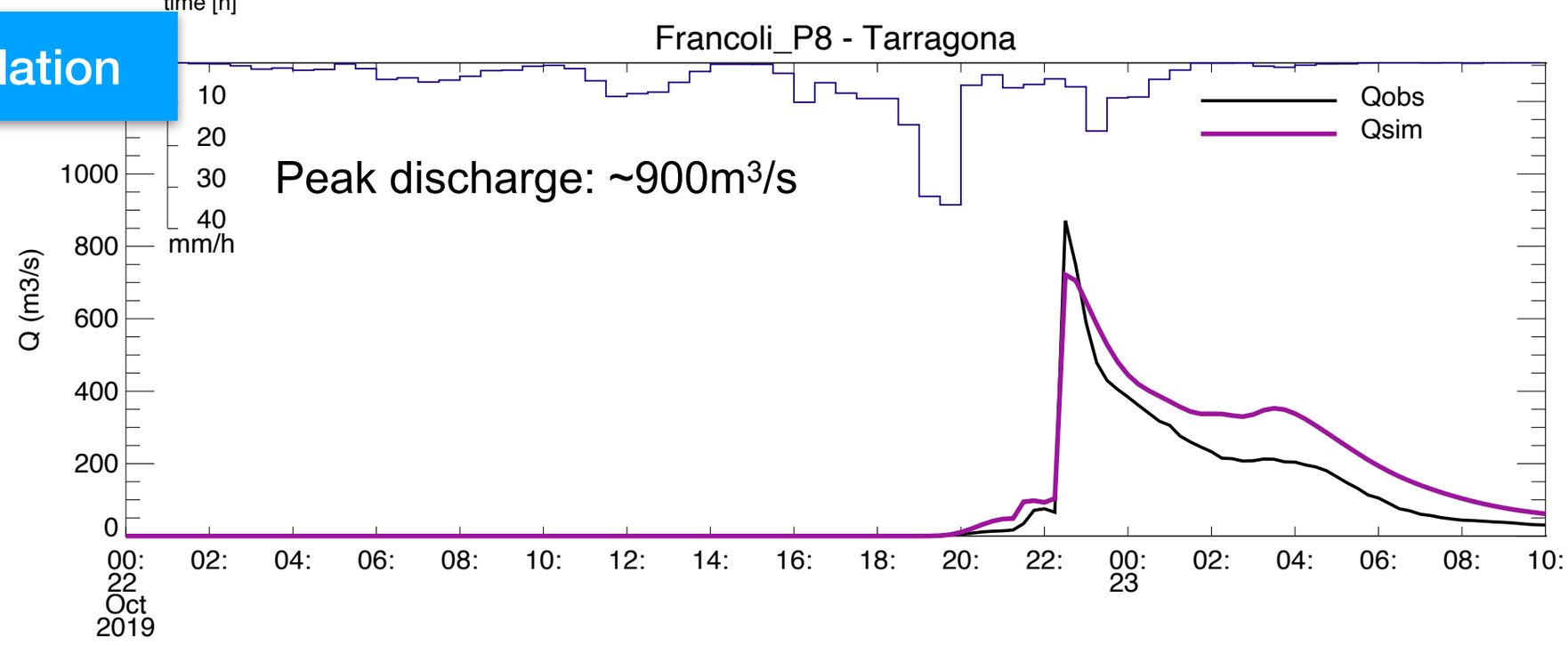






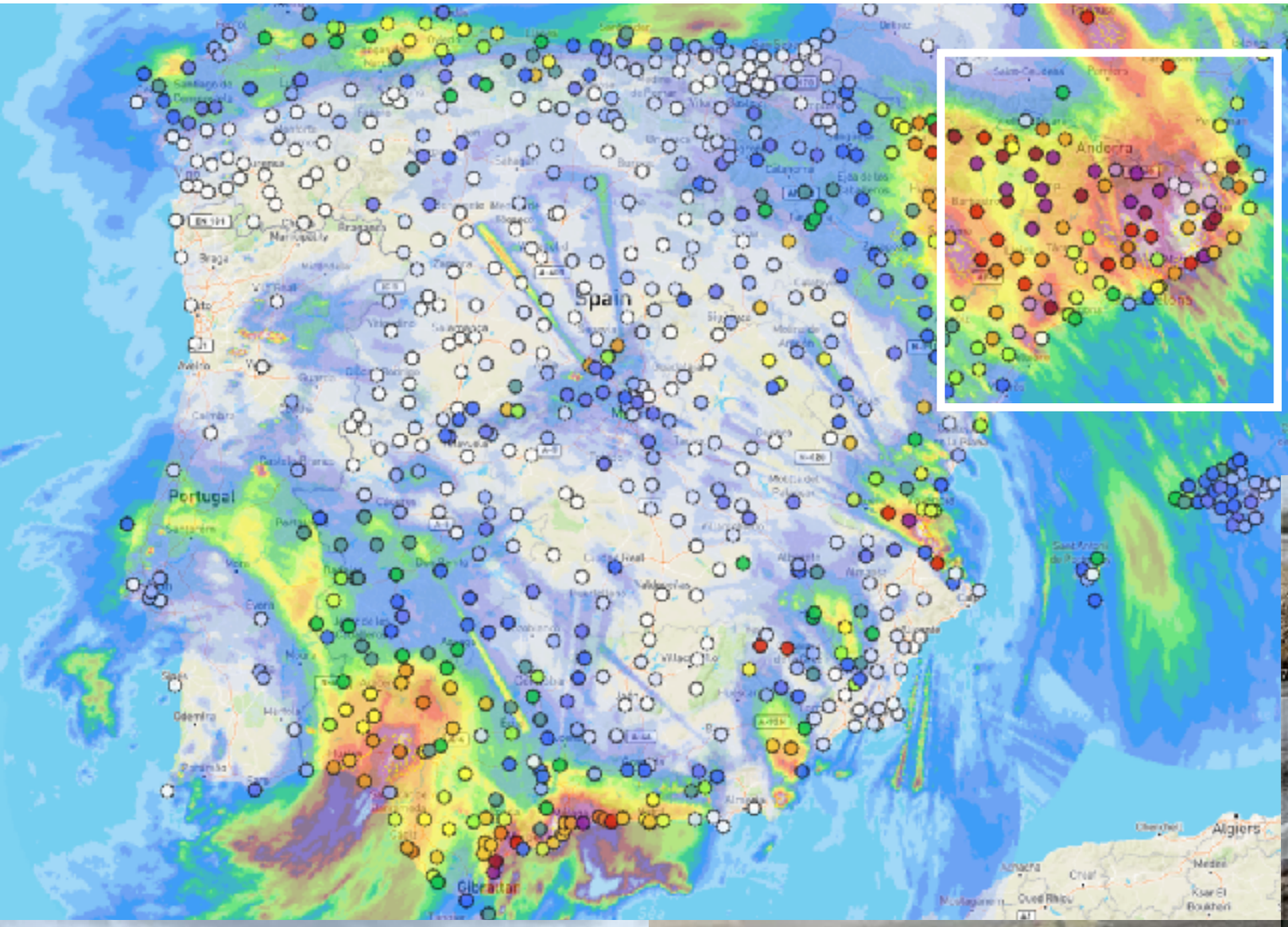


Runoff simulation



Gloria storm (Spain) 20-23 Jan 2020

OPERA radar rainfall accumulation 22 Jan 2020



Gloria storm (Spain) 20-23 Jan 2020

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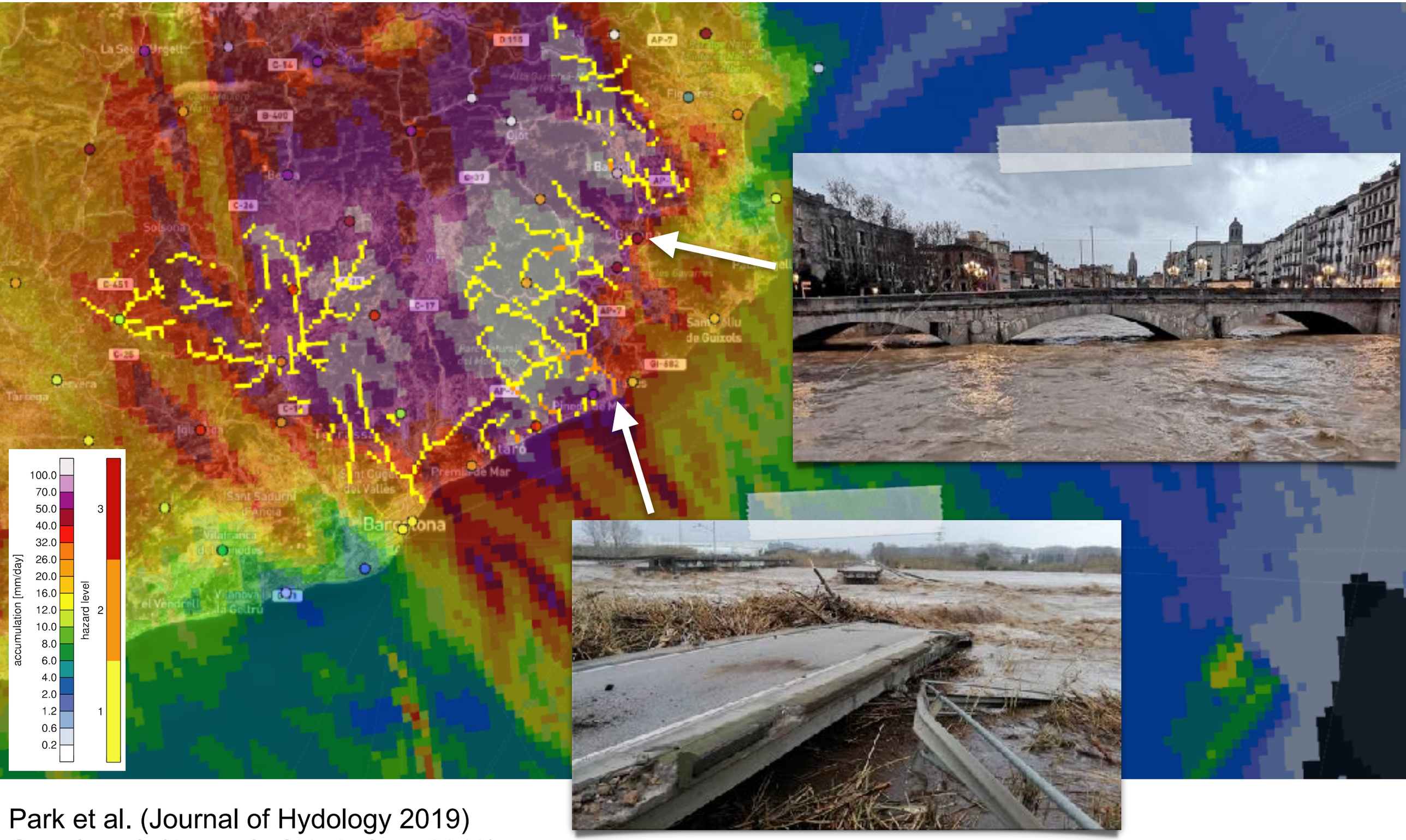

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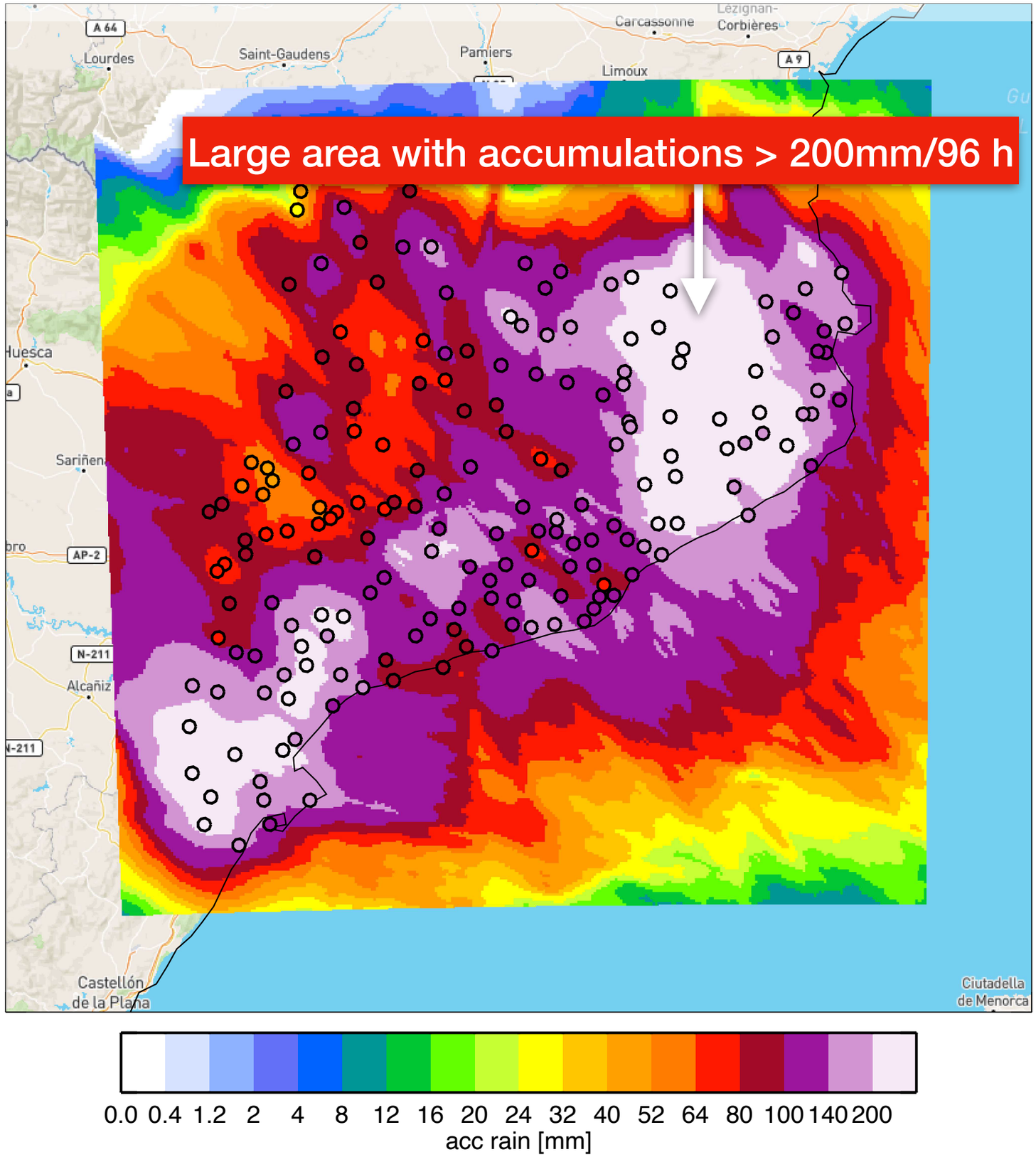
Improved radar-raingauge blending accumulation



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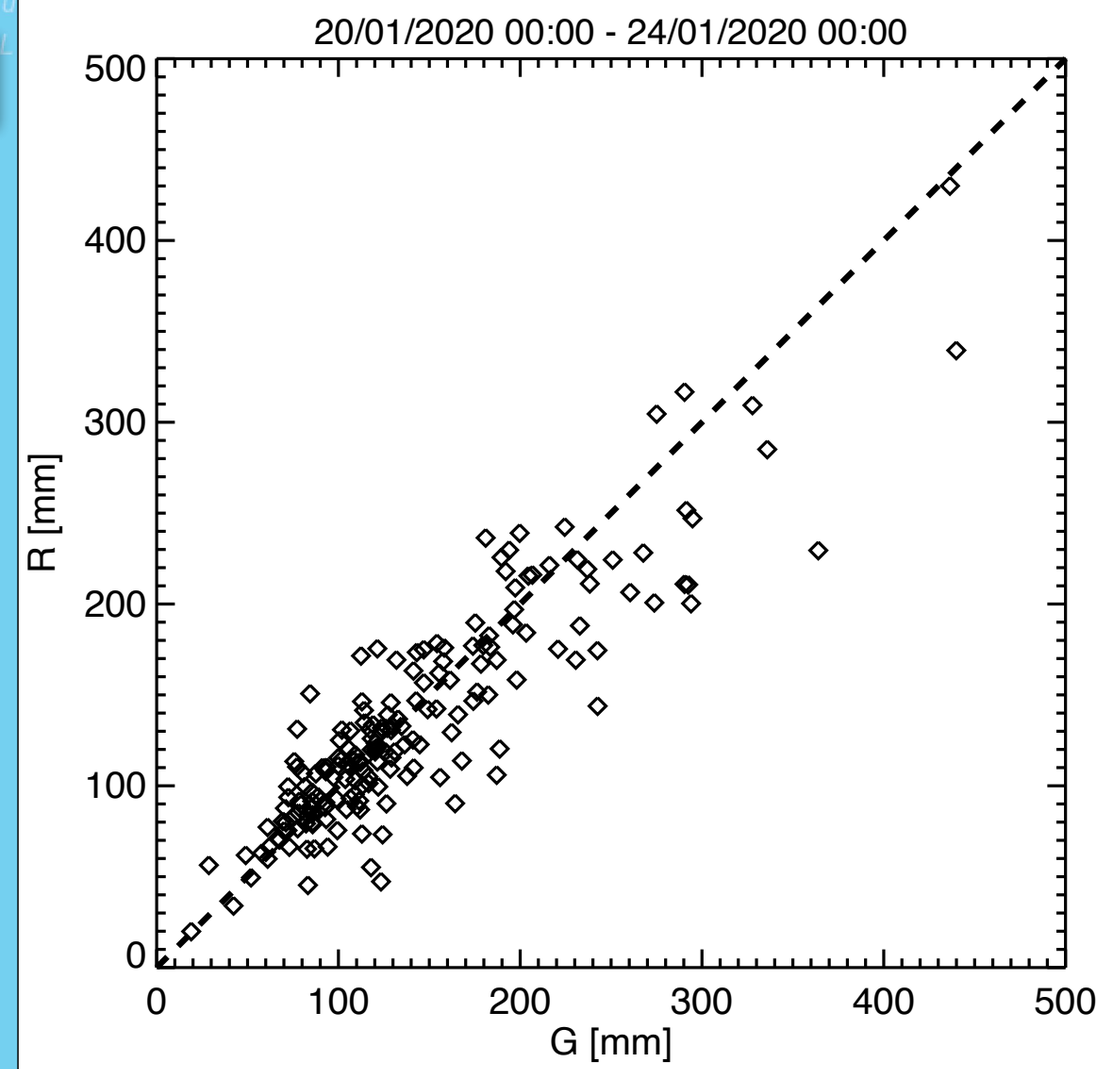
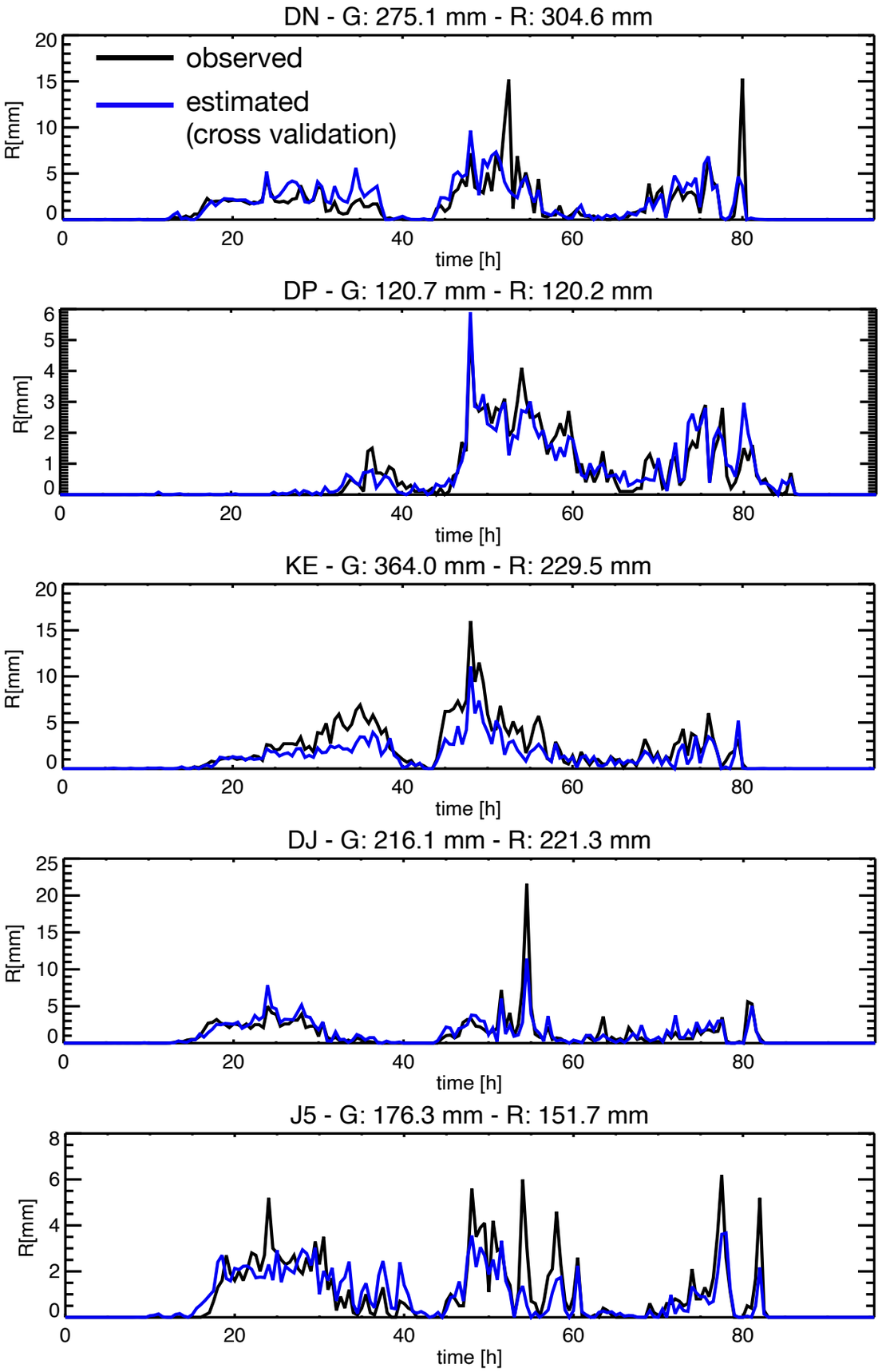
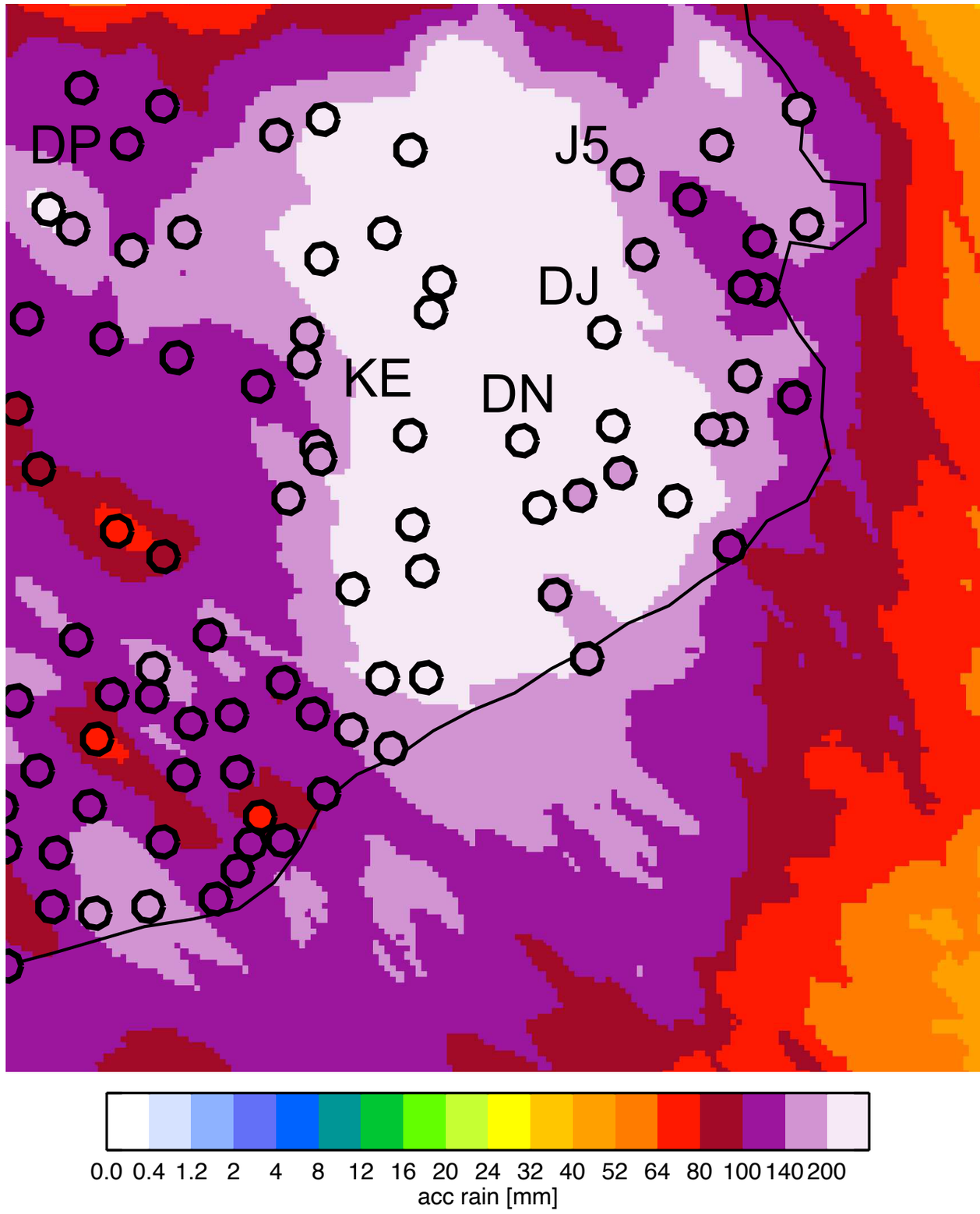


Gloria storm (Spain) 20-23 Jan 2020

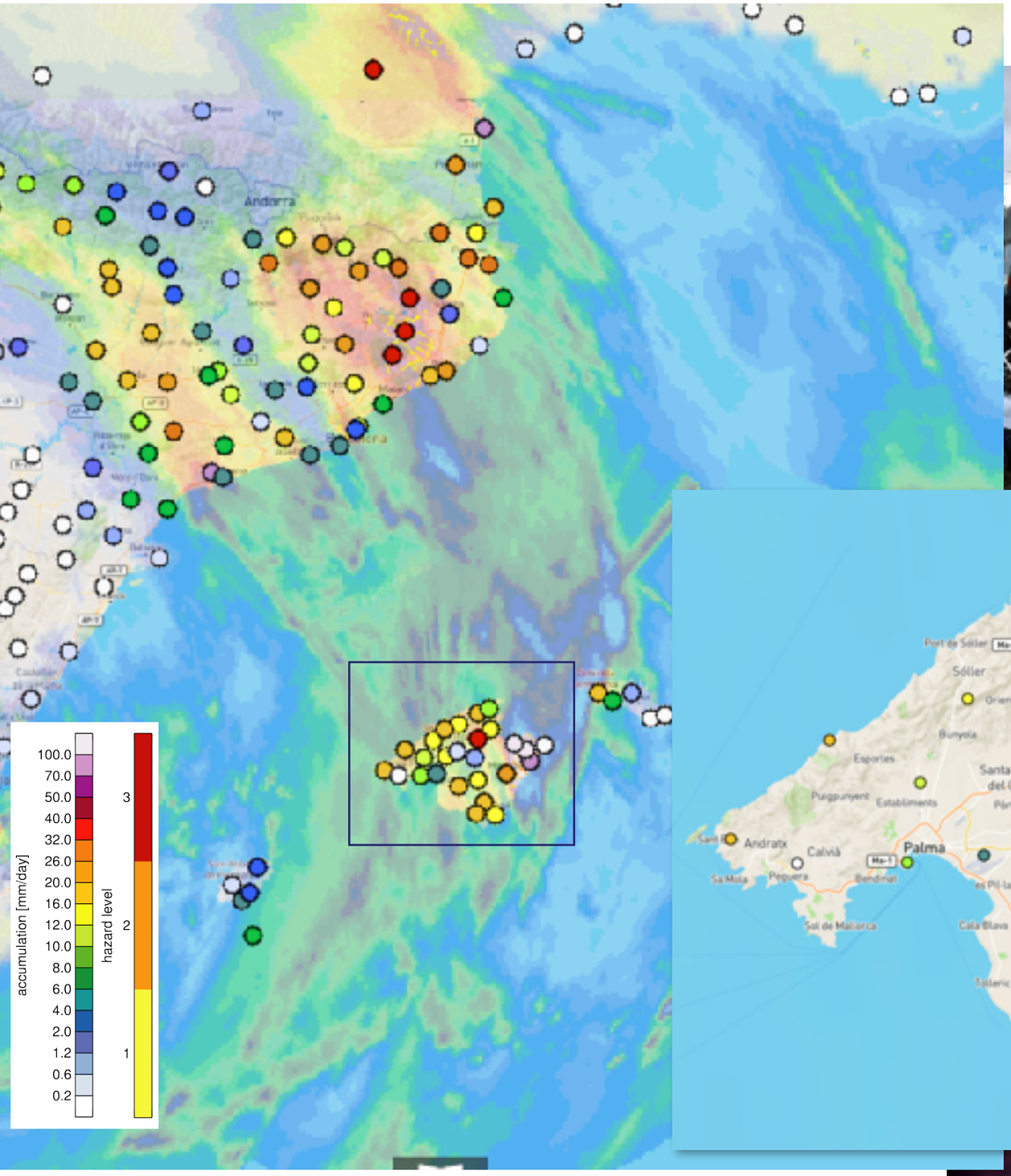
radar-raingauge blending time series





Mallorca (Spain) - 09 Oct 2018

ERICHA flood hazard and OPERA
Continental rainfall accumulation



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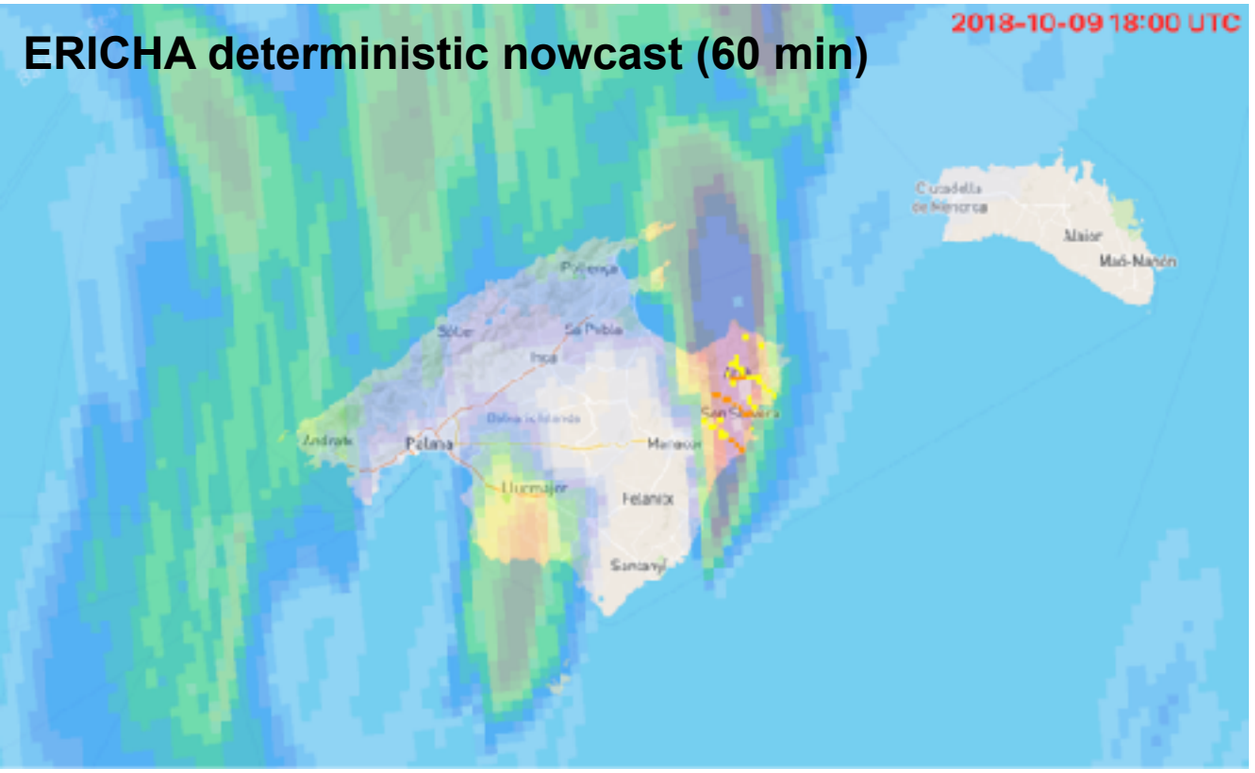
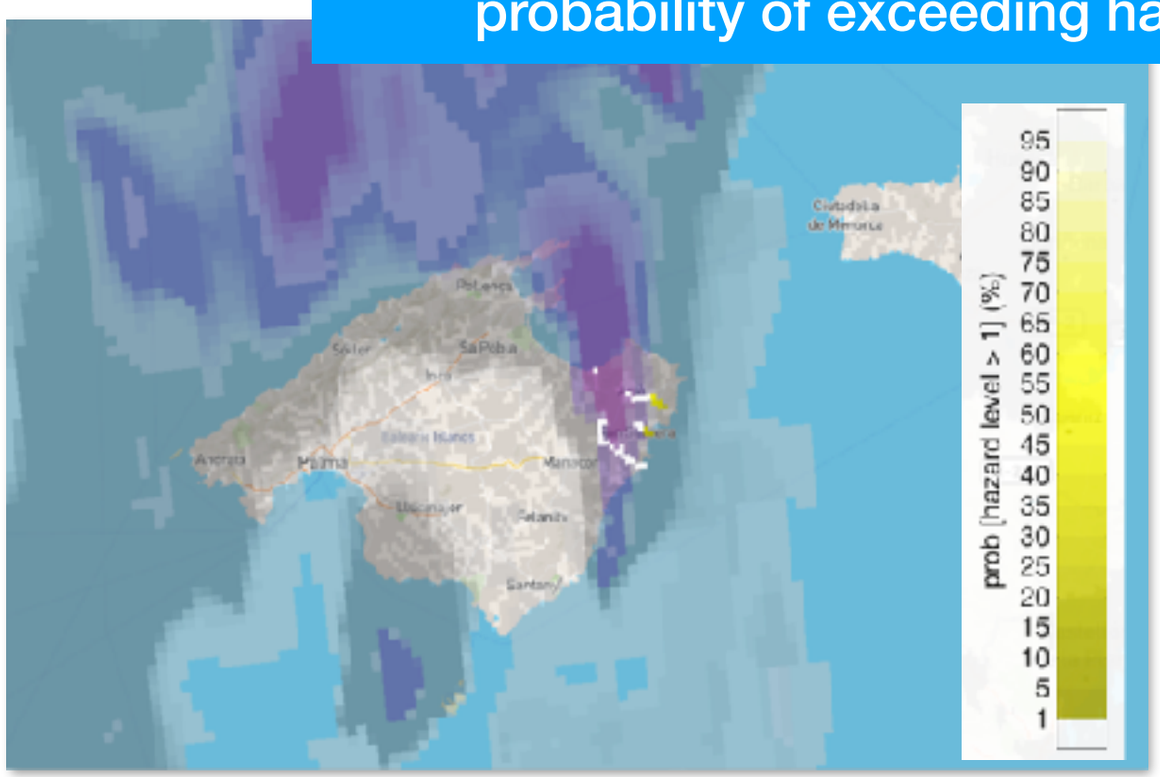
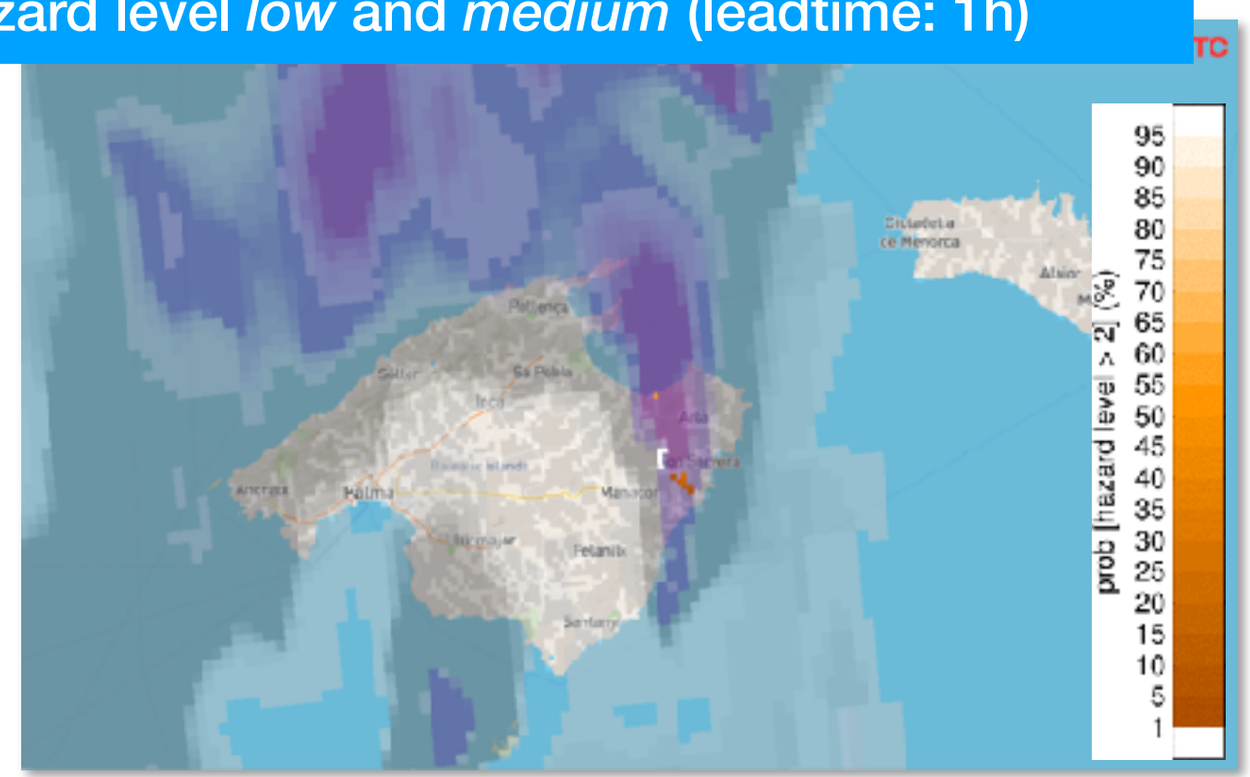


The ERICHA flash flood hazard indicator is implemented in real time in EFAS since 2017.

Recently, the probabilistic nowcasting technique SBMcast (Berenguer et al. 2011) has been coupled with the ERICHA flash flood hazard index to generate probabilistic FF hazard nowcasts.

probability of exceeding hazard level *low* and *medium* (leadtime: 1h)





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work done in the framework of the EU projects ANYWHERE and TAMIR:
www.anywhere-h2020.eu
www.tamir-project.eu

European Union
Civil Protection and
Humanitarian Aid