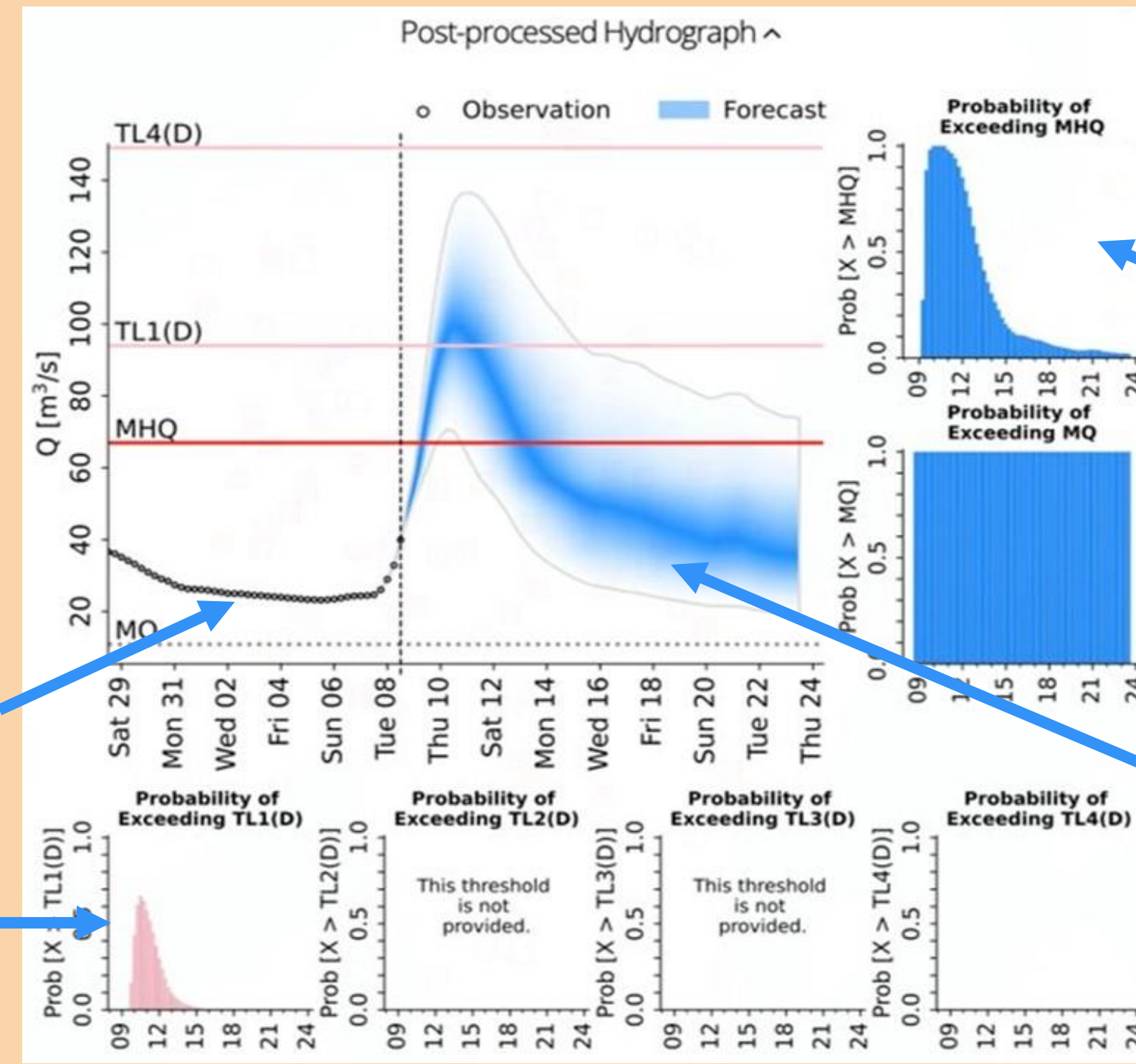# EFAS Post-processed Forecast

What?

The EFAS post-processed hydrograph are probabilistic 15-day forecasts that are conditioned on recent river discharge observations, simulations, and forecasts. The post-processed hydrographs are available at 1580 stations where near real-time and sufficient historic observations are available.

Near real-time observations.

Probability of exceeding providers' discharge thresholds.
Forecast probability of exceeding up to four thresholds from EFAS data providers (TL1(D) to TL4(D); pink horizontal lines) over the 15-day forecast horizon.

Post-processed Hydrograph

Probability of exceeding MHQ and MQ.
Forecast probability of exceeding the mean annual maximum discharge (MHQ; red horizontal line) and mean discharge (MQ; dotted horizontal line) over the 15-day forecast horizon.

Post-processed hydrograph.
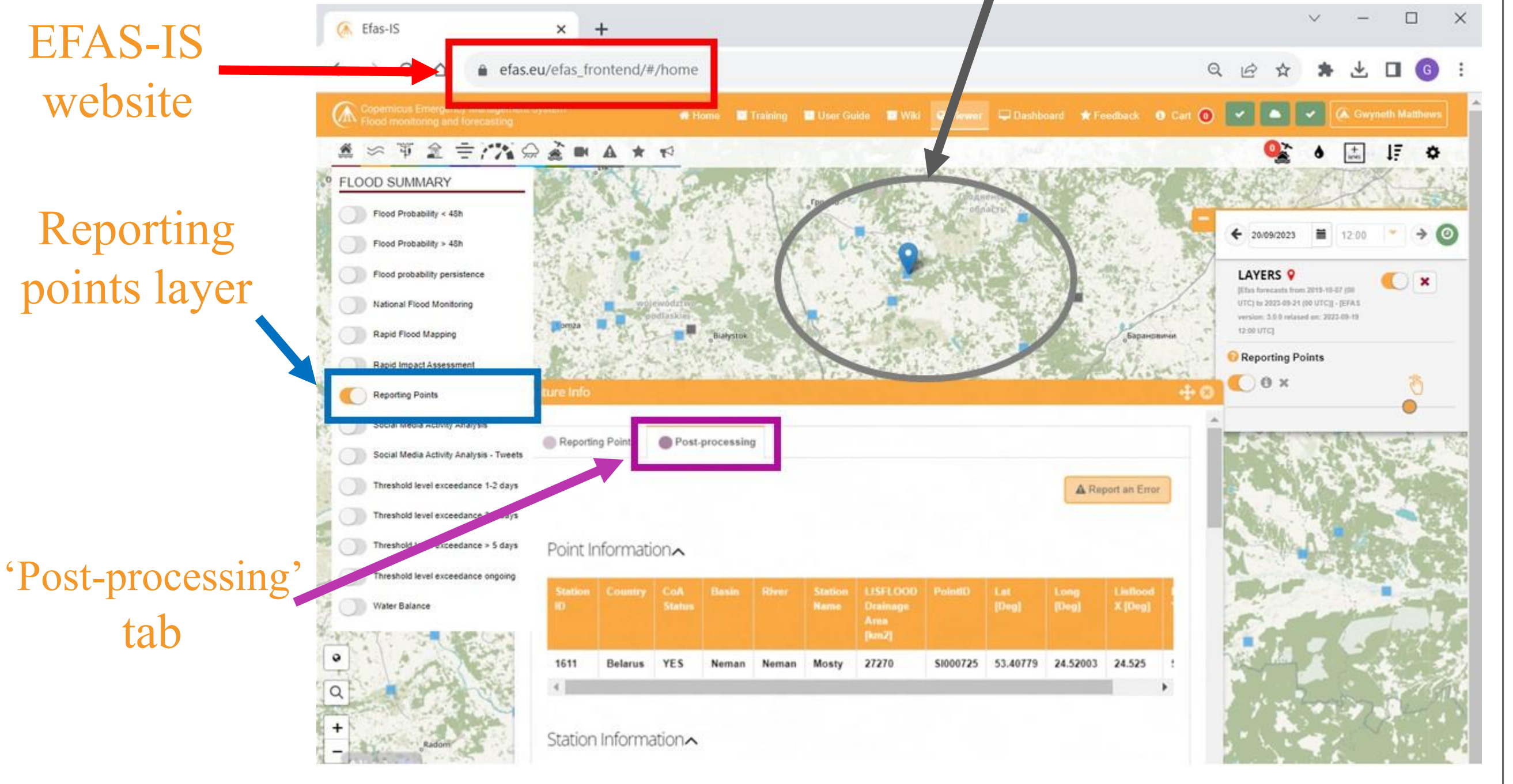Probabilistic forecast. Dark shades of blue closest to the forecast median

Why?

There are errors and uncertainties in all flood forecasts due to the meteorological forcings, initial conditions, and the hydrological model. The EFAS Post-processed Forecasts aim to correct the errors and quantify the uncertainty to better predict the river discharge.

The EFAS Post-processed Forecasts act as a complementary product to the EFAS ensemble forecasts which predict the severity of flood events.

Where?

Post-processing available at stations with blue squares

EFAS-IS website

Reporting points layer
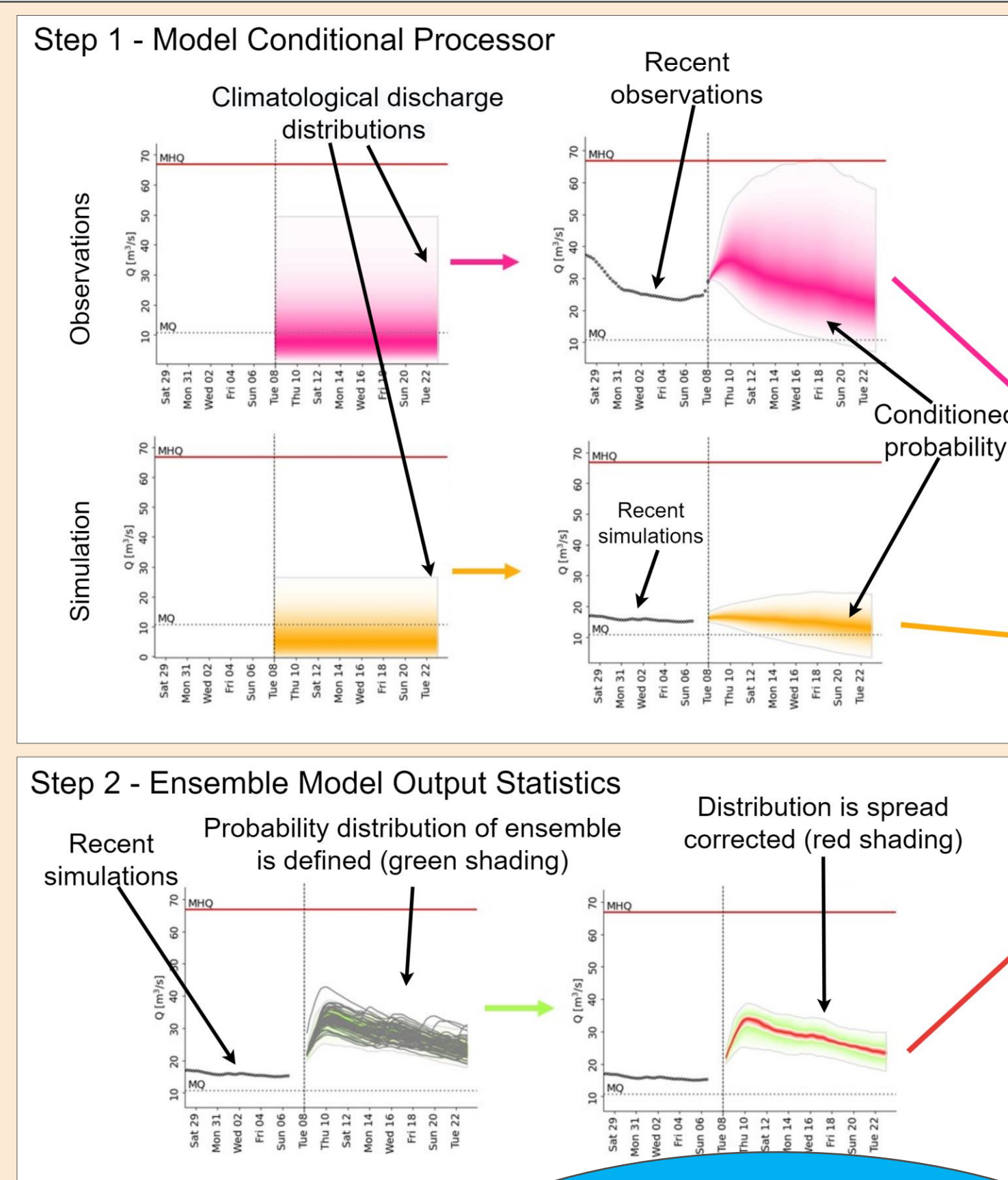
'Post-processing' tab

How?

The post-processed forecasts are created by combining all four flavours of EFAS streamflow forecasts with recent observations.
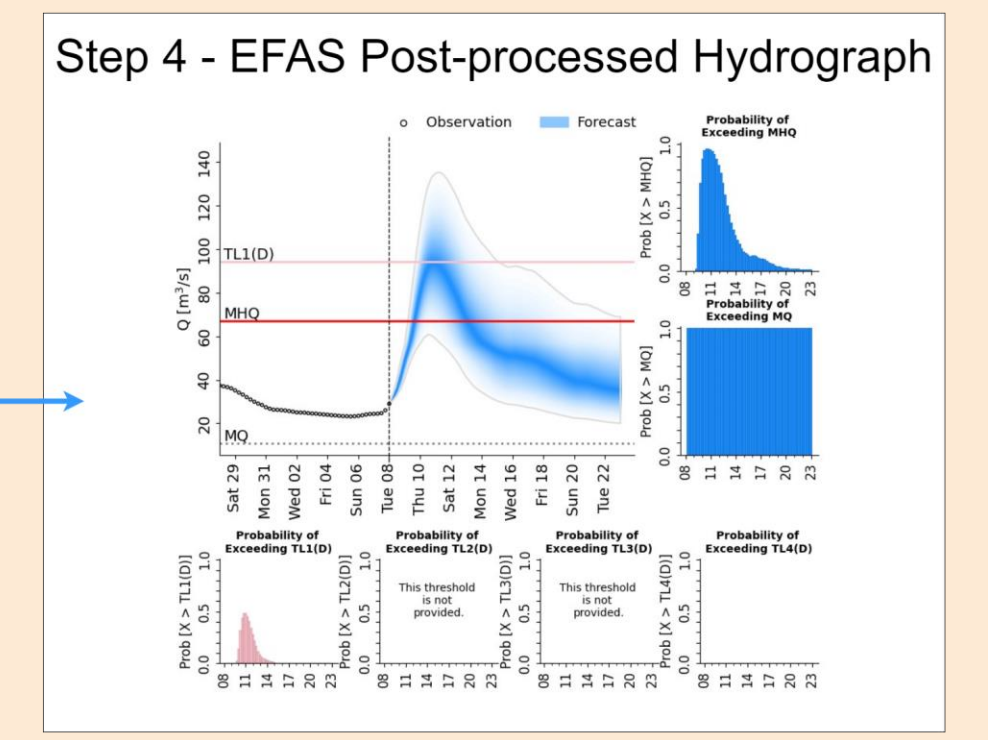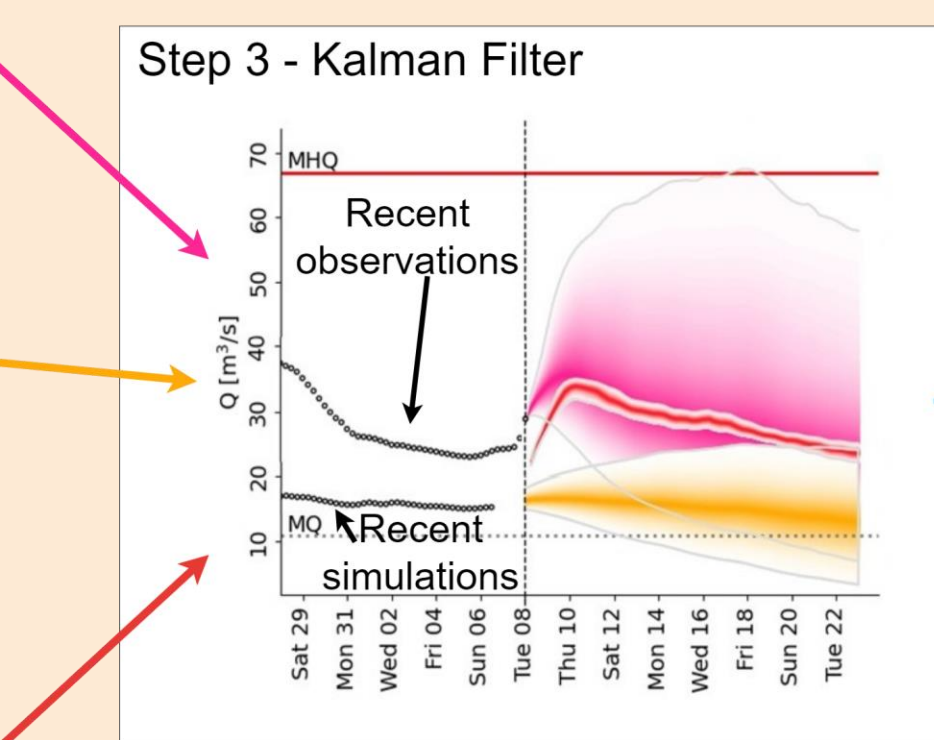
Twice a year an offline calibration is performed to estimate:

- The climatological distributions of the observations and simulation.
- The relationship between the observations and the simulation

Step 1: Biases and uncertainties due to initial conditions and the hydrological model are corrected and accounted for.

Step 2: Uncertainty due to the meteorological forcings are quantified.

Step 3: Uncertainties from all sources are combined.

Step 4: EFAS Post-processed Hydrograph product is generated.

What's new?

Talk to HYDRO to add or update these thresholds!

- Up to 4 provider discharge thresholds can be added to the EFAS Post-processed Hydrograph.
- Post-processed related information is available in the new post-processing tab.
- Two new tables provide information about the thresholds and the calibration results.

EFAS Post-processing: Threshold

MQ	MHQ	TL1(D)	TL2(D)	TL3(D)	TL4(D)
203.4	1245	218.5	666	1381	1551

EFAS Post-processing: Station calibration information

Calibration period	Max. observation (m3s-1)	Min. observation (m3s-1)	Timestep
2003-03-19 to 2021-07-13	1828.8	33.7	6

Copernicus Emergency
emergency.copernicus.eu

ECMWF
EUROPEAN CENTRE FOR MEDIUM-RANGE WEATHER FORECASTS

University of Reading

CopernicusEMS

EFAS is a service of the Copernicus Emergency Management Service (CEMS). The Joint Research Centre of the European Commission is the entrusted entity responsible for CEMS EFAS in terms of management, technical implementation and evolution. ECMWF is the designated contractor to implement the operational functionalities of the CEMS-COMP.