



Copernicus Emergency Management Service

Hydrological Data Collection Centre

17th EFAS ANNUAL MEETING

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26 09 2022





Emergency
Management

Hydrological Data Collection Centre (HDCC) - index

- News



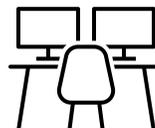
- Figures



- Challenges



- Activities





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Hydrological Data Collection Centre (HDCC) - news

- New Framework Contract since September 2021
- Operated and maintained by the same team but, new branding.
- Last summer, Soologic became Ghenova Digital

soologic[®]
TECHNOLOGICAL SOLUTIONS



<https://emergency.copernicus.eu/>





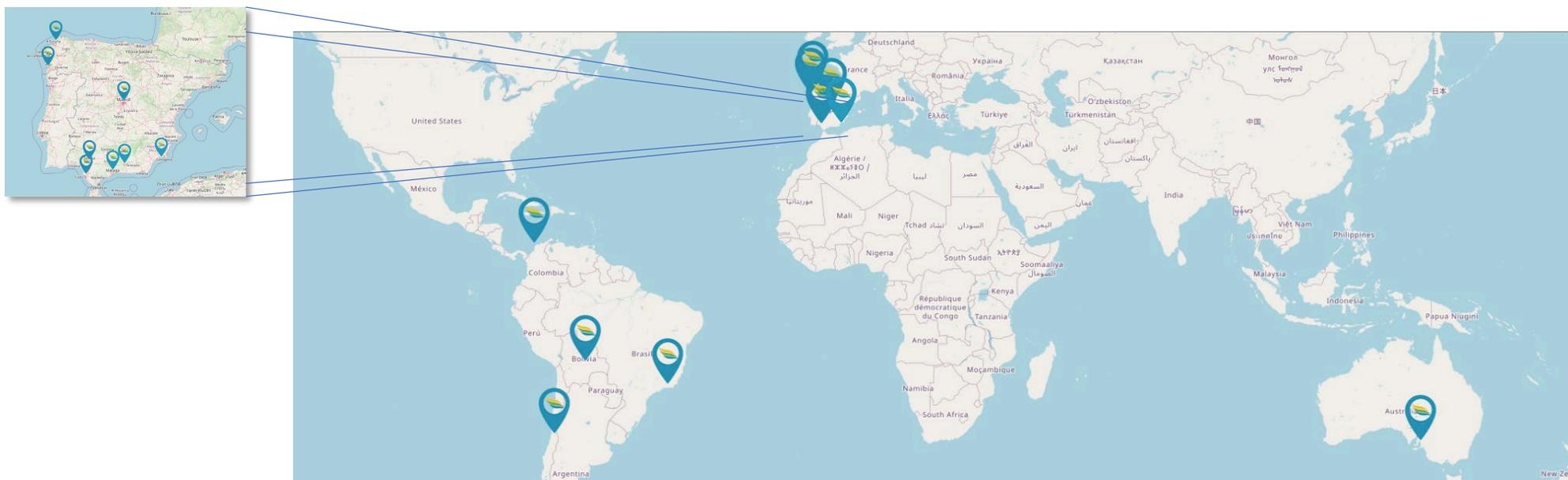
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Hydrological Data Collection Centre (HDCC) - news



GHENOVA is an international company that delivers multidisciplinary engineering and consulting services in a wide variety of sectors: energy, infrastructure, industry, marine, offshore, aeronautics and **systems**.

GHENOVA DIGITAL is the company of GHENOVA that operates in **systems and digital solutions**.





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Hydrological Data Collection Centre (HDCC) - news

How the new service contract and new branding affect you in relation with the current service?

Summing up: almost nothing.

- Previous contract was run by REDIAM and Soologic as a consortium.
- Current contractor is ~~Soologic~~, Ghenova Digital 
- Data licenses are signed with Copernicus, no changes.
- The team responsible for the operation of the HDCC remains the same, so relationships remain the same, as you have been experiencing last months.



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Hydrological Data Collection Centre (HDCC) - news

- Domain name and email addresses are going to change soon. We will contact with each one of you to a smooth and easy change.
- ¿Data transfer? Minor changes. The server will switch to other IP and domain, but current one will be working in parallel as time as needed. All changes will be made in a controlled way.
- Major changes in this new phase are related with the new variables, quality checks and data sharing.



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Hydrological Data Collection Centre (HDCC) - figures

Stations

Nr of Stations in the HDCC database

Total: 3.951

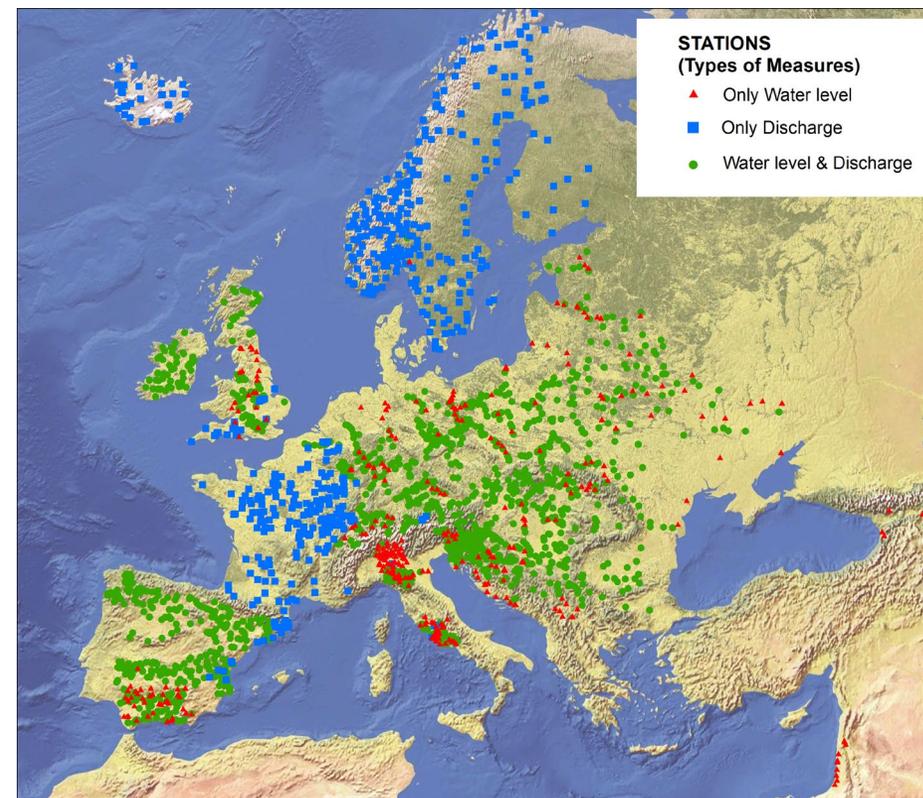
Active: 2.367

Active Discharge: 1.583

Active WL: 1.208

Active WL & D: 1.011

Increase from last year	End of 2020	Currently	Increase
No of Stations Registered	3.533	3.951	418
No of Active Stations	1.990	2.367	377



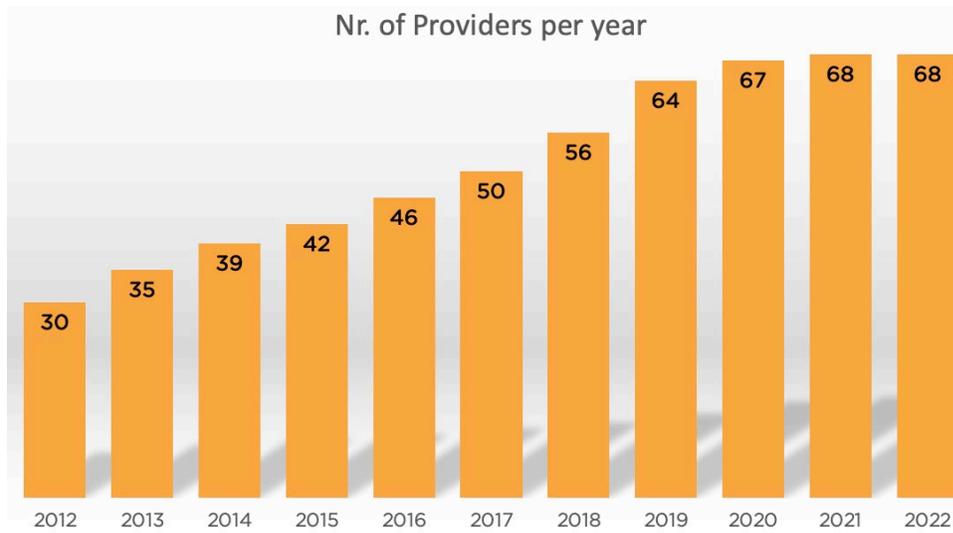
STATIONS
(Types of Measures)

- ▲ Only Water level
- Only Discharge
- Water level & Discharge

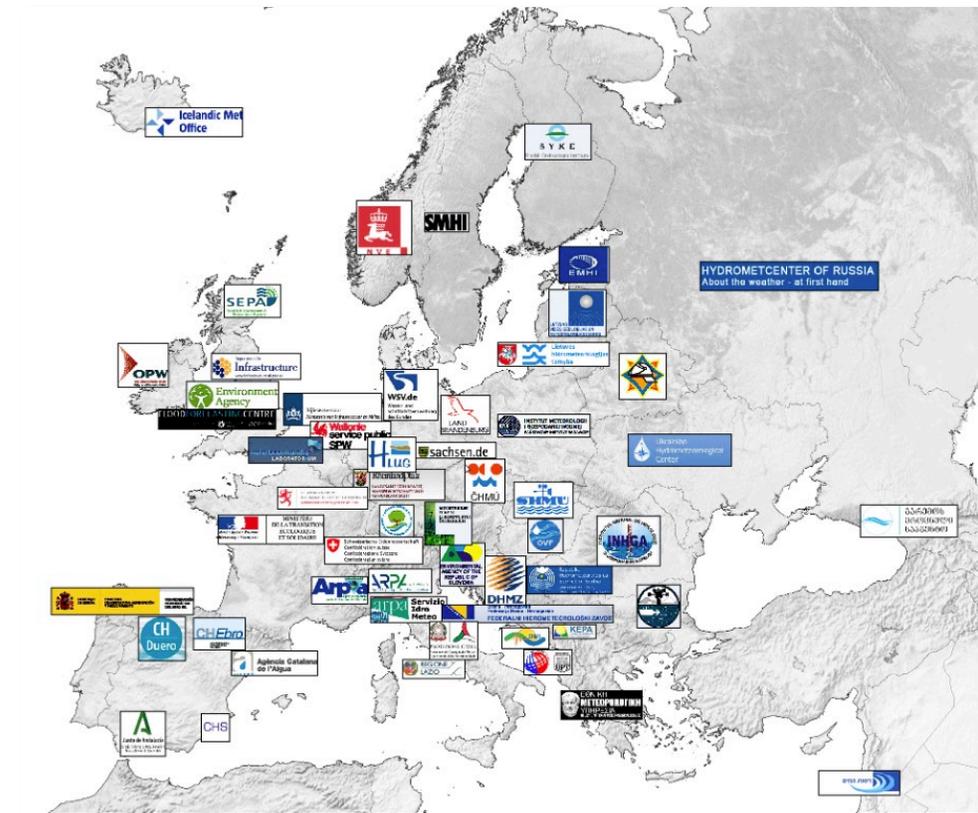


Data Providers over the years

Increase from last year	End of 2020	Currently
Data Providers	67	68
Active Data Providers	48	50



34 countries and more than a 51% of all the European water basins.



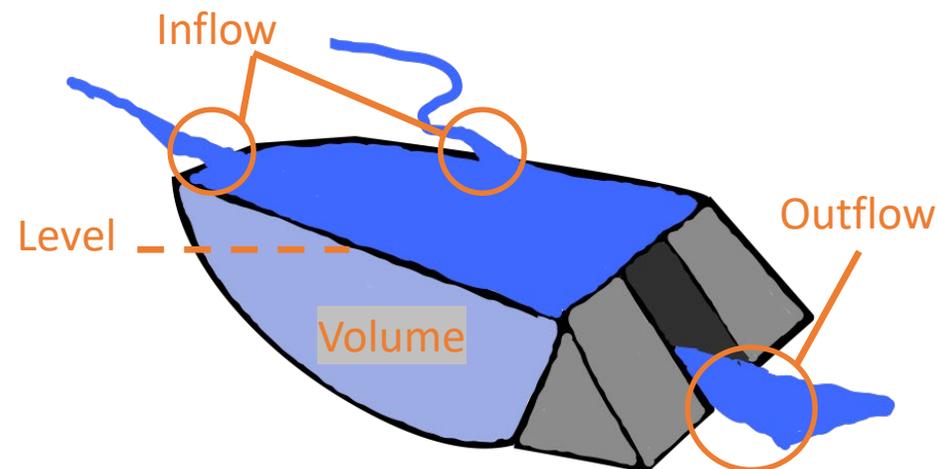


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Hydrological Data Collection Centre (HDCC) - challenges

I. Data collection of reservoirs

- In this new contract, the HDCC will collect, store, postprocess and share data from reservoirs.
- HDCC will contact partners for reservoirs data availability. There are some differences among countries, in some cases reservoirs are managed by private energy suppliers, for example.
- Variables managed: **outflow, reservoir level, volume, inflow** (as total inflow from several rivers, if only one river contributes it is treated as river station).
- Metadata: the same as river stations - historical maximum and minimum, threshold levels, etc.



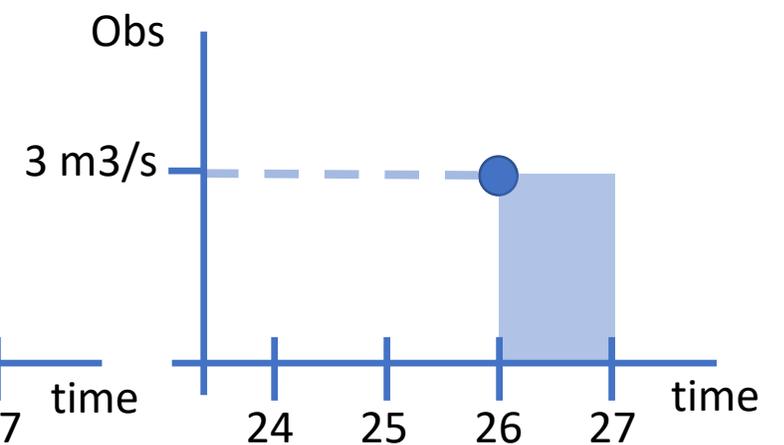
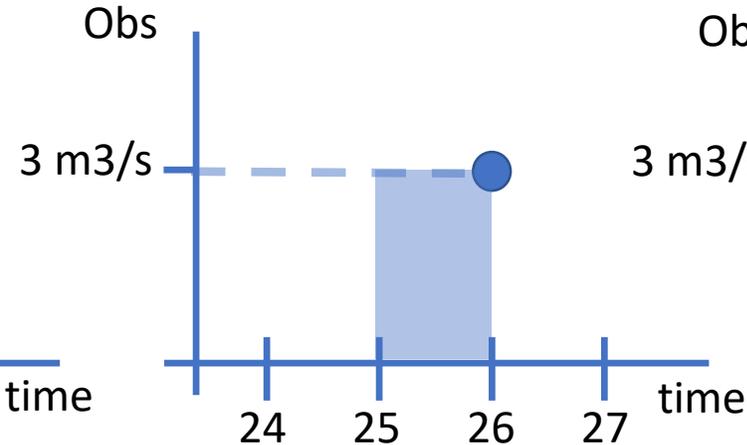
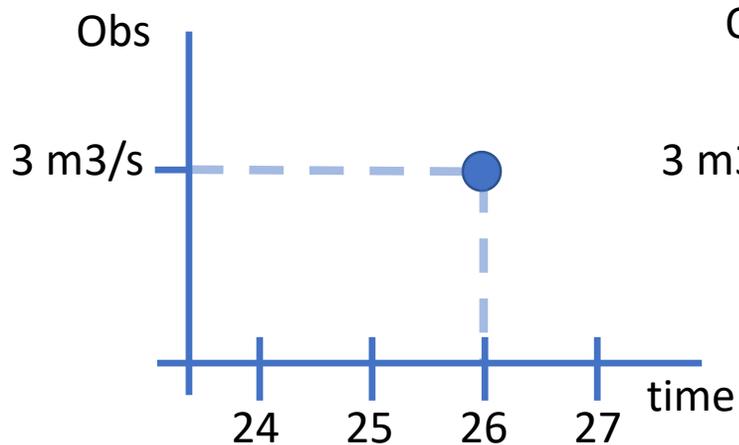


II. Annual historical data request

- Emphasis on assuring the correct aggregation interval and offset of the observations. In case of daily data, for example, is important to know where the timestamp is placed (at the beginning or at the end of the day).

Example: Same timestamp but different aggregation offset depending on where the timestamp is referred to:

2022/09/26 00:00:00; 3; m3/s





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Hydrological Data Collection Centre (HDCC) - challenges

III. Metadata review campaign

- Verification of stations and observations metadata (timestamp, aggregation interval, aggregation offset, backwater, etc.)

IV. Enhancement of quality controls

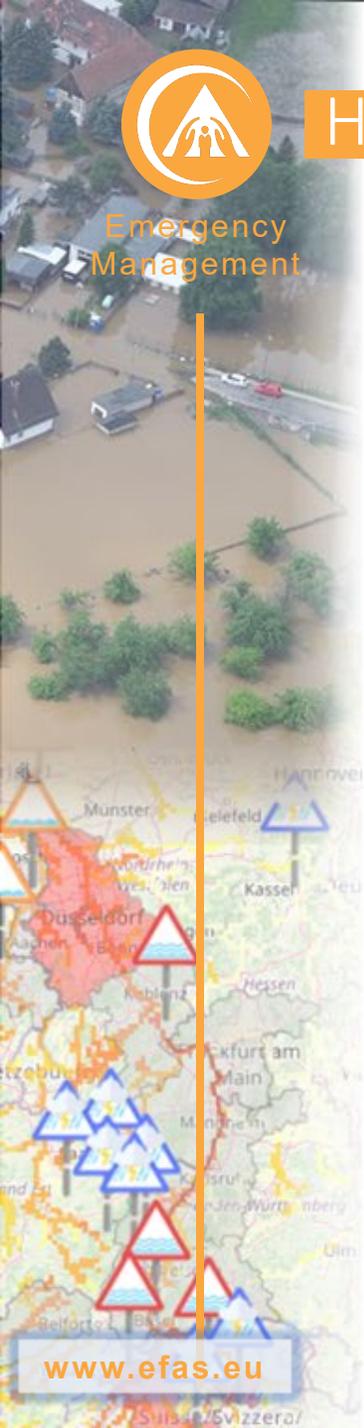
- Combination of quality control results
- Remove outliers or bad values of the calculus of derived data (averaged)



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Hydrological Data Collection Centre (HDCC) - activity

CEMS Hydrological data collection Centre Annual Report

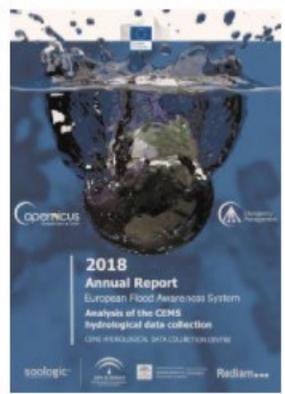


www.efas.eu

2017



2018



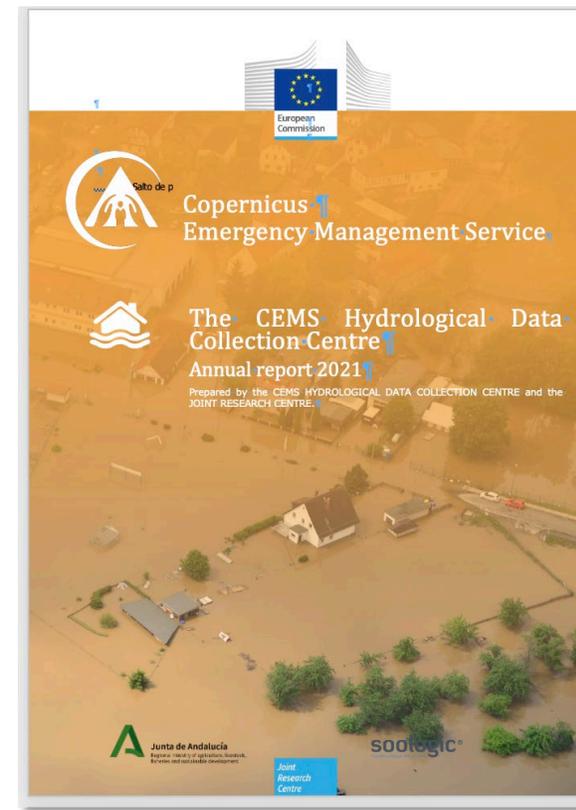
2019



2020



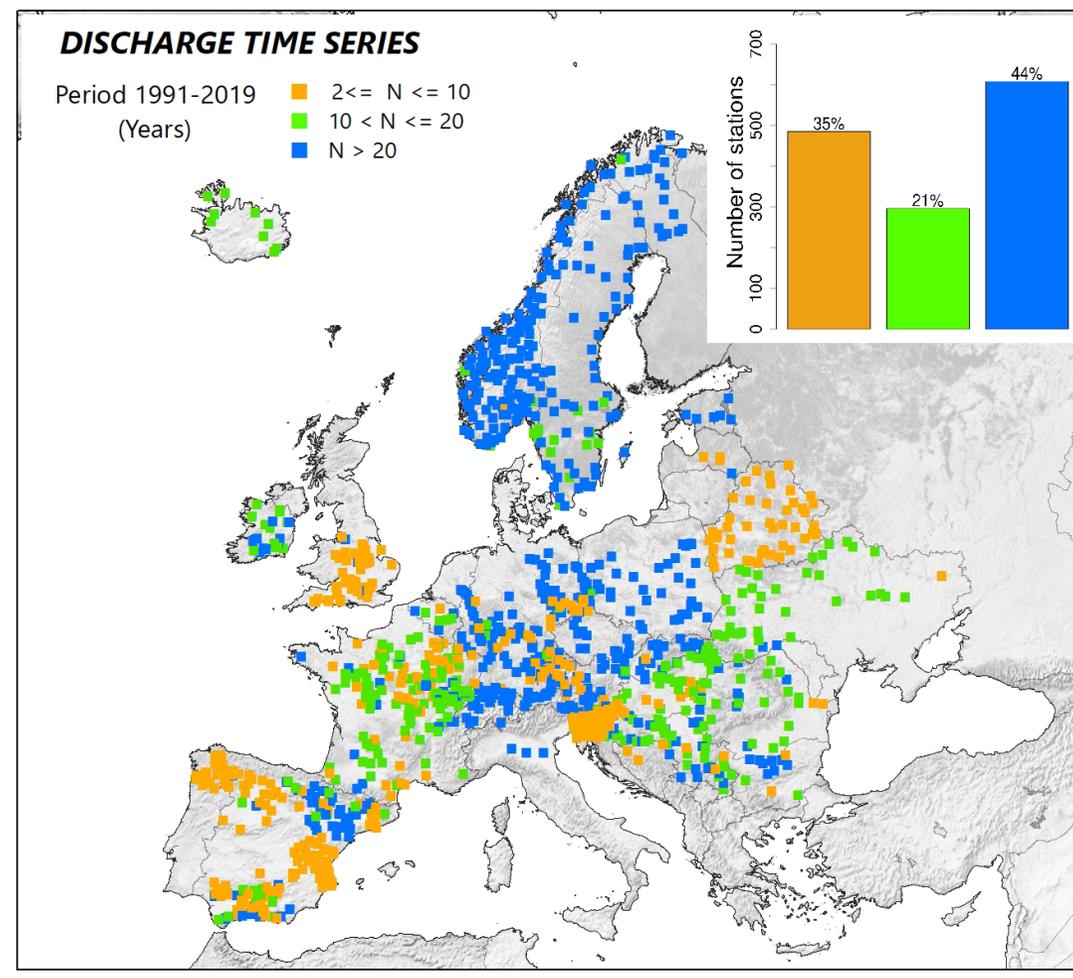
2021





Hydrological Conditions

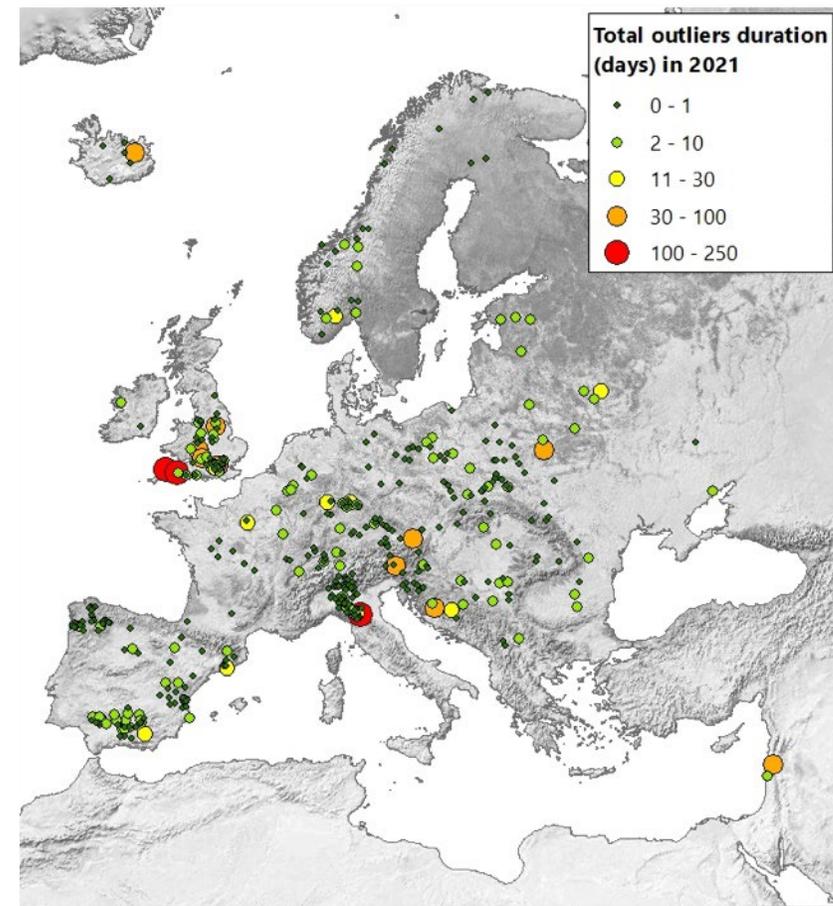
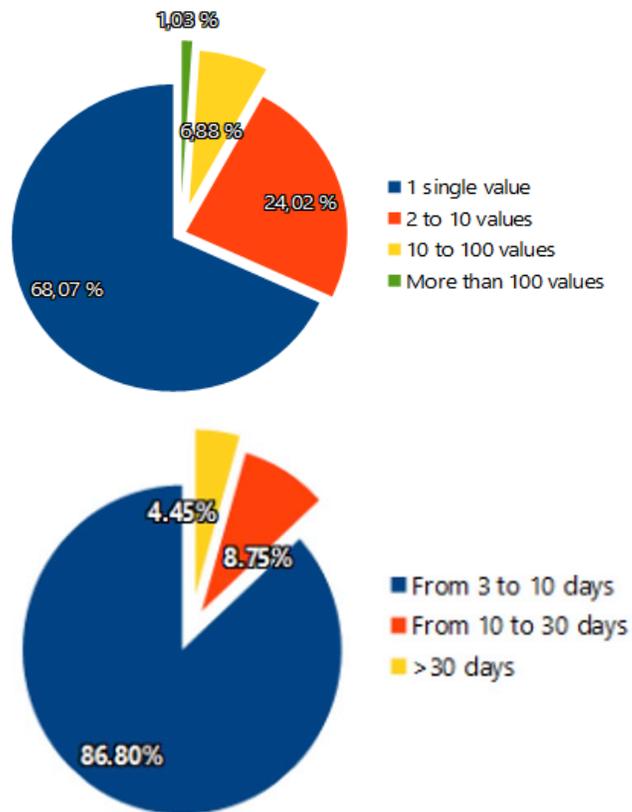
- The general hydrological conditions across Europe, focusing on important deviations of average discharge.
- In the map, the spatial distribution of the hydrological gauging stations chosen for this analysis





Gaps and outliers analysis

- 96 % of all expected data were received
- Similar than in the previous year even with an increment in the number of data received
- Regularity in data reception. 90% - 96%.



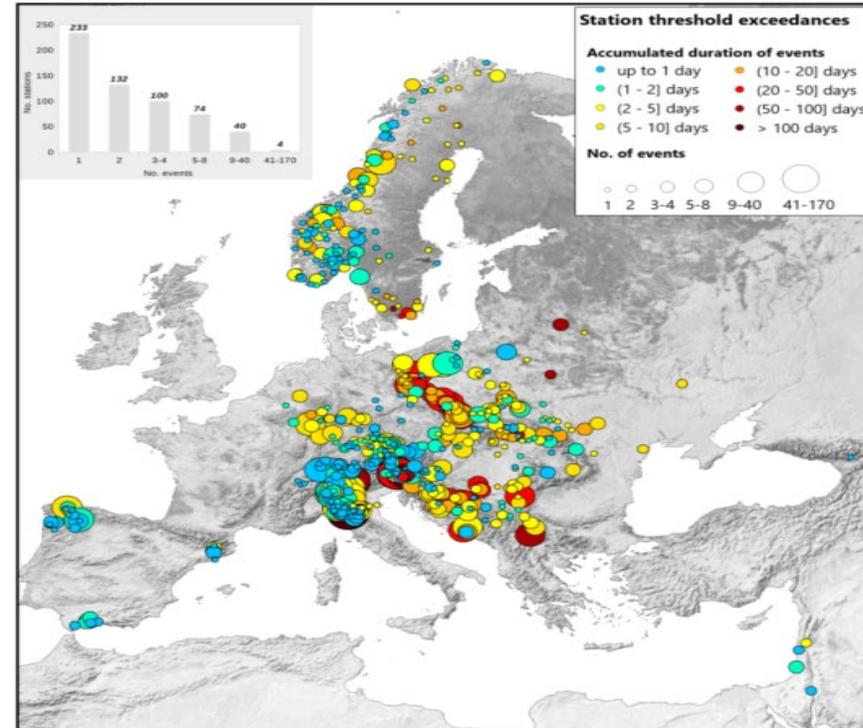
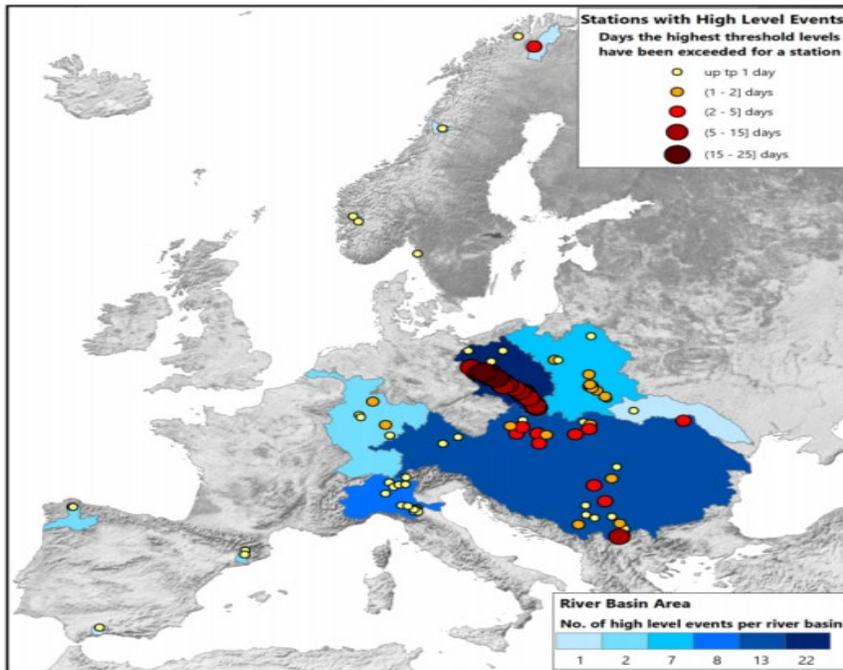


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Hydrological Data Collection Centre (HDCC) - activity

Exceedances

- 2.386 active stations selected for this analysis.
- Threshold levels were available for 1760 stations (74%) (light and dark blue stations in the map).
- Compared to 2020, the number of stations with at least one threshold level has increased by 224 and these stations has allowed EFAS to monitor new countries and areas: Ireland, Luxembourg, Northern Spain, Belgium, Germany and Slovakia





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Hydrological Data Collection Centre (HDCC) - activity

Some conclusions included in the Annual Report 2021

- The water contribution in 2021 is higher than in 2020 but still it was slightly lower than it was in the historical period 1991-2019. Drier conditions were more notable in the Upper Danube river basin and stations of Ukraine, Spain and Norway.
- The number of gaps has increased in 2021 with respect to the previous year (606,407 vs 525,936), the high number of new stations is the main cause of the increase in the number of exceedances in 2021, together with the duration of the events, many events but shorter in general terms.
- During 2020 there were 583 stations with exceedances and 93 with high events (15.95%). The percentages are almost the same in both years.

