

ROBIN Network Submission

9th August 2022 V1

This document sets out our plans for submitting data to be included in V1 of the ROBIN Network. It covers:

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# Station selection

If there is an established Reference Hydrometric Network (RHN) in place in your country you are welcome to submit that as it is (with any required metadata), alongside any existing guidance documents, papers etc., although it would be useful if you can assess the network against the ROBIN Criteria before doing so (e.g. checking whether stations are in the Level 1 or Level 2 Network).

For countries without an established RHN, the ROBIN network criteria given below (and discussed in more detail in the Network Criteria Proposal document) should be used to identify catchments to be added to the ROBIN network.

If you have any questions about identifying possible ROBIN catchments and/or the data submission process, the ROBIN team will be happy to answer questions and queries at [robin@ceh.ac.uk](mailto:robin@ceh.ac.uk) or via the [ROBIN Network Teams site](https://teams.microsoft.com/l/team/19%3aR5vFlgcVJt5QikenfMPWj-prMyGCVaAtBl4kXEeKO9c1%40thread.tacv2/conversations?groupId=a2112890-cf81-4118-8d45-9fef2155f4d5&tenantId=7f025136-39f3-4f2c-a3c6-cbb1ce21b36a).

# Timeline

We appreciate that in some cases where there is not an established RHN there is more work to do to identify catchments before data can be submitted. Therefore we hope that our planned timeline allows sufficient time for ROBIN partners to identify catchments and submit data for the first phase of ROBIN.

**August – October 2022:** Identifying possible catchments for inclusion in the ROBIN Network. Throughout this period we’d be grateful if you are able to work on selecting sites suitable for inclusion in the ROBIN Network and checking data sharing arrangements to ensure smooth transfer of data to UKCEH. It is hoped that we can also sign up any additional countries to the ROBIN Network during this period, and use this time to introduce ROBIN such that they are ready to submit data in 2022.

**October 2022-December 2022:** Main data submission phase. Having (hopefully) identified suitable catchments in the August to October period, we hope to open the main data submission phase from October to December 2022. This will involve ROBIN partners transferring flow and metadata to the ROBIN team at UKCEH using the instructions set out below.

**January 2023:** ROBIN analysis phases starts using V1 of the ROBIN Network. More information will be coming soon.

**We appreciate that there may be challenges in sharing the raw flow data, see the** [**Data Sharing**](#_Data_sharing) **section below for more information.**

This deadline does not mean it is a last chance for changes or additions to stations in the ROBIN Network. This deadline will effectively be the cut off for ROBIN V1 and will allow us to commence the data analysis phase at the start of 2023, for the first planned global scale ROBIN analysis. Any stations or changes made after this will not be included in the ROBIN V1 analysis but will be captured in later versions of the dataset. The initial ROBIN project extends to Nov 2023, but the ROBIN network and dataset will be continuing after this point, funded by other mechanisms and in partnership with other agencies (WMO, GRDC).

# Data Submission

If your flow data and metadata is available to access openly, please let us know via email and we will endeavour to retrieve it ourselves (note we will need a list of catchments if this is part of a wider database of gauging stations).

If flow data is not openly available online, all data files and the completed metadata, will need to be sent to the ROBIN team.

**The deadline for receiving data is: 31st December 2022**

**Data should be sent to:** [**robin@ceh.ac.uk**](mailto:robin@ceh.ac.uk)

If file sizes are too large to send via email, files can be transferred using the ROBIN Network Teams site or other file transfer options e.g. [WeTransfer](https://wetransfer.com/) (for files under 2GB), Dropbox etc. Please send us an email when file transfer options have been used to let us know the data is on its way.

If adding data to the [ROBIN Network Teams site](https://teams.microsoft.com/l/team/19%3aR5vFlgcVJt5QikenfMPWj-prMyGCVaAtBl4kXEeKO9c1%40thread.tacv2/conversations?groupId=a2112890-cf81-4118-8d45-9fef2155f4d5&tenantId=7f025136-39f3-4f2c-a3c6-cbb1ce21b36a) please follow steps below:

1. Within the ROBIN Networks Files, create a new folder in the ‘[**Data Submission**](https://cehacuk.sharepoint.com/:f:/r/sites/ROBINNetwork/Shared%20Documents/General/Data%20Submission?csf=1&web=1&e=i4TBSO)’ folder and rename for your country,
2. Copy files to the new folder, and
3. Send an e-mail to [robin@ceh.ac.uk](mailto:robin@ceh.ac.uk) to let us know that the files have been uploaded to the Teams site, where they will be collected and copied to the UKCEH Network.

# Data Sharing

We recognise that data sharing and accessibility arrangements vary substantially between countries. For each country (or stations within, if data sharing rules are different for regions / organisations within countries):

* If flow data *can* be made available to be included in a published open dataset, it should be submitted to the ROBIN team as described above;
* If data can be shared for use within ROBIN but not published as an open dataset, it should also be submitted to the ROBIN team as described above with a clear note that it is for use within the project only; and we will ensure that the data is only used by ourselves and ROBIN partners.
* If it is not possible to share the flow data at all with the ROBIN team, we hope that it is possible to share derived indicators that will be used in the analysis phase of ROBIN. If this is the case, we can share tools (using open source software) that can derive these indicators, so these can be shared with the ROBIN team. We would hope that we could publish these derived indicators, but let us know if that will not be possible. For any Partners where this is the case, we will share codes to do so in October, ready for submission by the end of December 2022.

# Network Criteria

Following the Data and Analysis workshops held in April 2022 and discussion with ROBIN Partners, the Network Criteria is laid out below. More detailed discussion about the criteria can be found in the ROBIN Network Criteria document. Stations submitted to the ROBIN Network should conform to the below criteria:

|  |  |
| --- | --- |
| **Level 1 Network** | **Level 2 Network** |
| Largely free from human disturbances such as urbanisation (≤ 10% of the catchment), river engineering and water abstractions. Modest net impact of all influences on low flows and high flows and any impacts stable over time. No known major changes in land use likely to impact streamflow regime. | Fairly free from human disturbances such as urbanisation (≤ 20% of the catchment), river engineering and water abstractions. Modest net impact of all influences on monthly and annual flows and any impacts stable over time. |
| Very high quality daily mean river flow data capable of reliably representing high and low flows. Appropriate metadata. | High to fair quality daily mean river flow data capable of reliably representing monthly average flow conditions with appropriate metadata. |
| Record length of at least 40 years | Record length of at least 20 years |
| No data gaps longer than three years. | |

# Data Format

To help the data acquisition process, please export daily mean flow data in **.CSV format**. We can accommodate different types of format, in general, as long as they are comma separated columns. The data file should include the following ([see example file](https://cehacuk.sharepoint.com/:x:/r/sites/ROBINNetwork/Shared%20Documents/General/Data%20Submission/Data%20Request%20and%20Network%20Criteria%20-%20ROBIN%20V1/12005-example-data-file.csv?d=wdbe7e310293f469e95c49c4ff6e4e38f&csf=1&web=1&e=O6KiJH)):

* Station ID (in filename)
* Date (DD-MM-YYYY)
* Daily Mean Flow (m3/s)
* Quality Assurance (QA) flag\* e.g., indicating missing, estimated, suspect data

\*only if QA flags are available. If using QA flags, please provide a table of definitions

# Metadata submission

Metadata for each station is vitally important in order to provide context to the raw flow data. As a minimum for inclusion in the ROBIN Network the following metadata should be provided for each gauging station:

* Agency (i.e. data collector) and country
* Station ID
* Station Name (in English)
* Latitude (decimal degrees)
* Longitude (decimal degrees)
* Shapefile of catchment boundary
* Catchment area (km2)
* Comments – this freetext field can be used to notify that the station may only be suitable for one part of the flow regime, or that there are issues with weed growth, ice etc.

To help the metadata acquisition process, please provide one spreadsheet with all stations metadata. We can accommodate different types of format, in general, as long as they are comma separated columns. The data file should include the following ([see example file](https://cehacuk.sharepoint.com/:x:/r/sites/ROBINNetwork/Shared%20Documents/General/Data%20Submission/Data%20Request%20and%20Network%20Criteria%20-%20ROBIN%20V1/uk-example-metadata-file.csv?d=w5bfa27052bd24090a77713b1a8ed1818&csf=1&web=1&e=hZ7j4Z)):