

River flow estimates – HydroTool

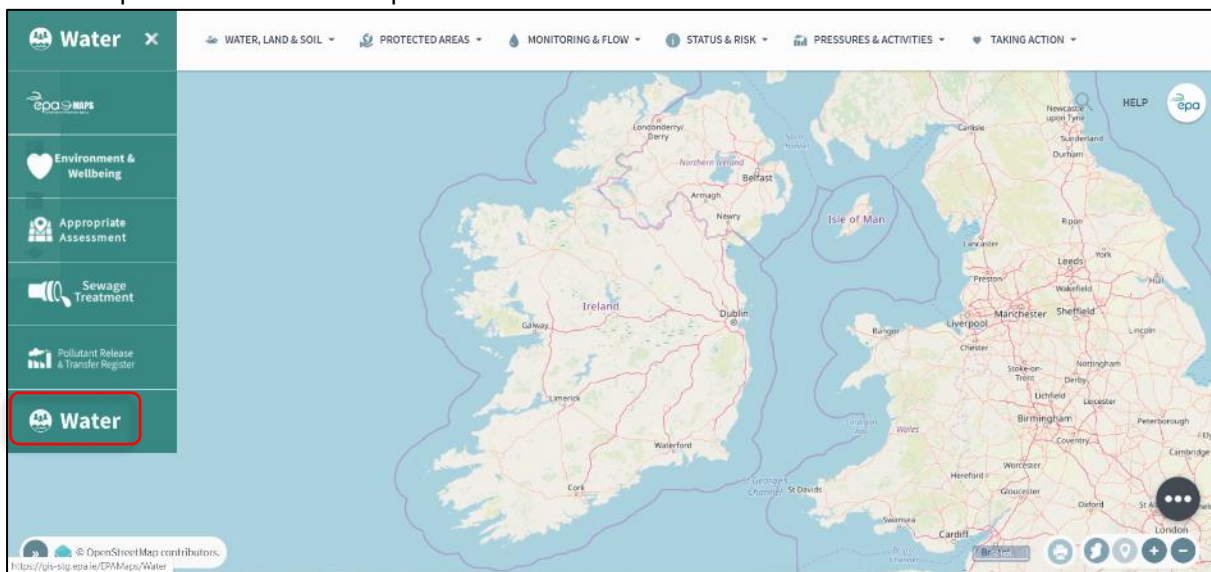
Introduction

This document provides a description of the steps required to use the river flow estimates information in EPA Water Maps and provides details on the parameter headings in the >River flow estimates data set. The river flow estimates layers replace the EPA HydroTool application and provide an updated version of the same data set. This document should be read together with the report 'Flow Duration Curves for Ungauged Catchments in Ireland', Bree (2018).

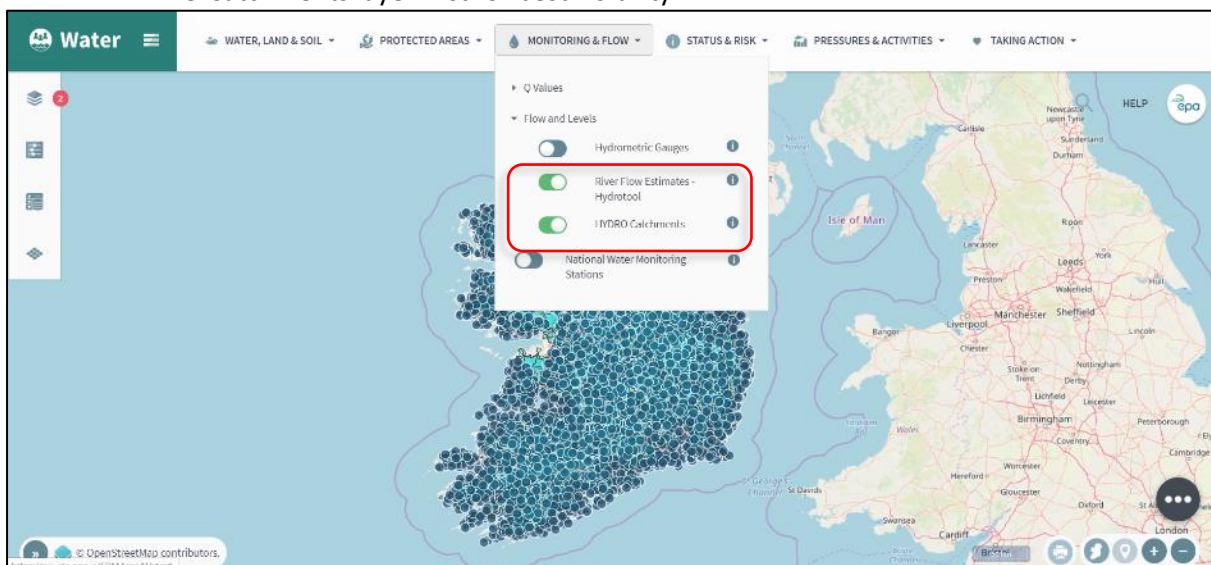
How do I use the river flow estimates layer?

To use the river flow estimates layer, follow these steps:

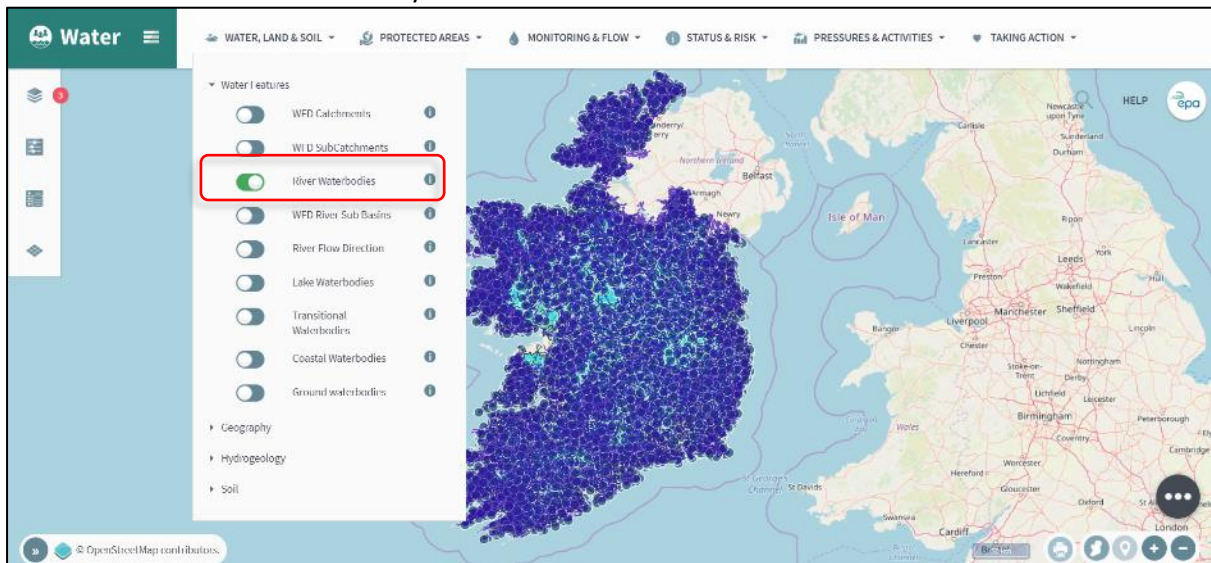
1. Open the EPA Water maps viewer.



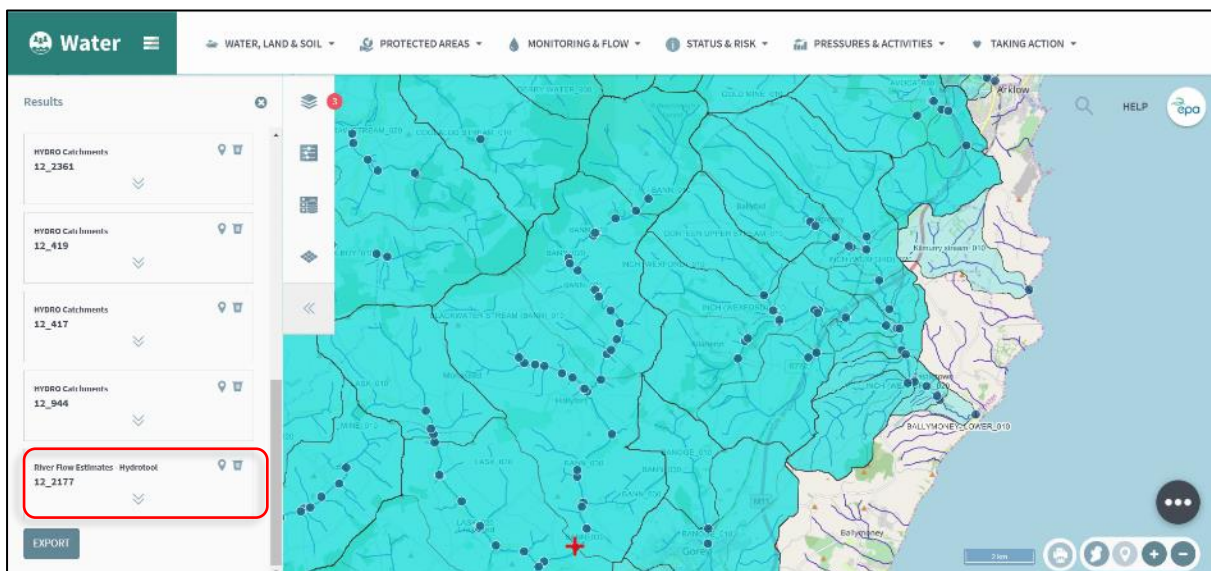
2. Go to the >Monitoring & Flow Tab and open the >Flow and Levels drop down menu. Turn on BOTH >HYDRO Catchments AND the >River flow estimates - HydroTool layers. Turn on the >HYDRO Catchments layer first for best visibility.



3. Go to the >Water, Land & Soil Tab, open the >Water Features drop down menu, and turn on the >River Waterbodies layer.



4. Zoom in to your area of interest. Note that the layer is zoom dependent, and it will not display if you are zoomed in to a very high level.
5. You will see navy dots located at points along river channels. Flow estimates are available for each of these points. Click on a navy dot, then scroll down the menu on the left hand side and click on the River flow estimate – hydrotool label. This will display the river flow estimate and catchment descriptor data for the selected point.



6. Click on the text 'View contributing catchment', this will display the contributing catchment area for that flow estimate point.

The screenshot shows the EPA Water portal interface. On the left, there is a 'Results' panel with a table of flow estimates. A red box highlights the 'View contributing catchment' link in the 'Hydro Catchment' column. The main area is a map showing a river network with various flow estimate points marked with blue dots. The map includes labels for various locations and streams, such as 'DERRY WATER', 'COOLAUG STREAM', 'BLACKWATER STREAM', and 'NICH OVERFORD'. The interface also features a navigation menu at the top and a search bar on the right.

| Flow Estimate ID | Flow Estimate Value |
|------------------|---------------------|
| NATQ1 | 5.31221 |
| NATQ5 | 3.3001 |
| NATQ10 | 2.40714 |
| NATQ20 | 1.07071 |
| NATQ30 | 1.2939 |
| NATQ40 | 0.946926 |
| NATQ50 | 0.773904 |
| NATQ60 | 0.002201 |
| NATQ70 | 0.462493 |
| NATQ80 | 0.945892 |
| NATQ90 | 0.23084 |
| NATQ95 | 0.184189 |
| NATQ99 | 0.122818 |

7. The parameters contained in the data set are described in the next part of this document.

The screenshot shows the EPA Water portal interface, similar to the previous one. The 'Results' panel on the left now displays a larger table of flow estimates and parameter IDs. A red box highlights this table. The main area is a map showing a river network with various flow estimate points marked with blue dots. The map includes labels for various locations and streams, such as 'DERRY WATER', 'COOLAUG STREAM', 'BLACKWATER STREAM', and 'NICH OVERFORD'. The interface also features a navigation menu at the top and a search bar on the right.

| | |
|----------|----------|
| NATQ10 | 1.07071 |
| NATQ30 | 1.2939 |
| NATQ40 | 0.946926 |
| NATQ50 | 0.773904 |
| NATQ60 | 0.002201 |
| NATQ70 | 0.462493 |
| NATQ80 | 0.945892 |
| NATQ90 | 0.23084 |
| NATQ95 | 0.184189 |
| NATQ99 | 0.122818 |
| NATMM1 | 1.12875 |
| NATMM7 | 1.94027 |
| NATMM7 | 1.98926 |
| NATMMF3 | 1.35153 |
| NATMMF4 | 0.260717 |
| NATMMF5 | 0.714822 |
| NATMMF6 | 0.267381 |
| NATMMF7 | 0.093132 |
| NATMMF8 | 0.002001 |
| NATMMF9 | 0.54777 |
| NATMMF10 | 0.018293 |
| NATMMF11 | 1.61922 |

Data legend

There are two types of variables in the data set. The first are the catchment descriptors, and the second are the river flow estimates. Catchment descriptors are described in detail in '*Flow Duration Curves for Ungauged Catchments in Ireland*', Bree (2018) and are as follows:

CatchmentArea_km2

This descriptor refers to the surface area of the contributing catchment (catchment area) upstream of a flow estimation point in Km². A number of karst dominated catchments have been omitted from the model because the actual contributing catchment area is unknown.

FARL

This descriptor refers to the proportion of the contributing catchment area that is comprised of lakes and reservoirs. FARL stands for Flow Attenuation from Rivers and Lakes and is an index that weights each reservoir and lake area by the catchment area that feeds it. Values close to unity indicate the absence of attenuation due to lakes and reservoirs whereas index values below 0.8 indicate a substantial influence on flood response.

RAINFALL_SAAR

This descriptor refers to the Standardised Annual Average Rainfall in the contributing catchment. This parameter is based on gridded Met Éireann rainfall data from the period 1961-1990.

EVAPOTRANSPIRATION

This descriptor refers to the potential evapotranspiration in the contributing catchment

POORLYDRAINED

This descriptor refers to the proportion of soils in the contributing catchment classified as being poorly drained.

PEAT

This descriptor refers to the proportion of subsoils in the contributing catchment classified as being organic in nature.

CONDUIT_KARST

This descriptor refers to the proportion of the contributing catchment that is underlain by a Regionally Important Aquifer dominated by conduit karst flow.