

River flow estimates – HydroTool

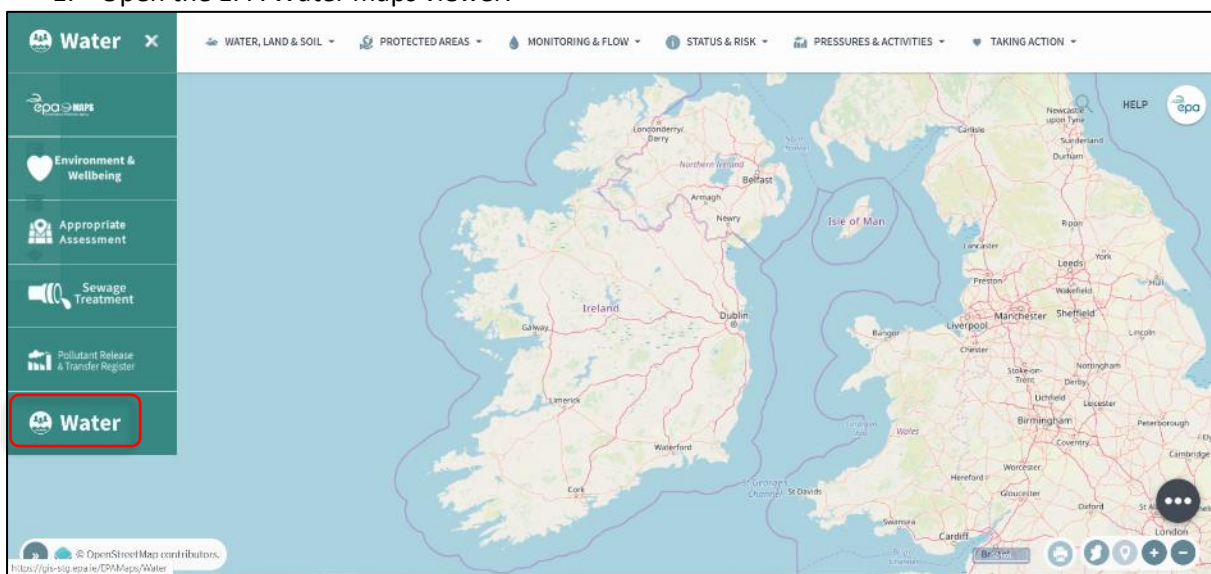
Introduction

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).

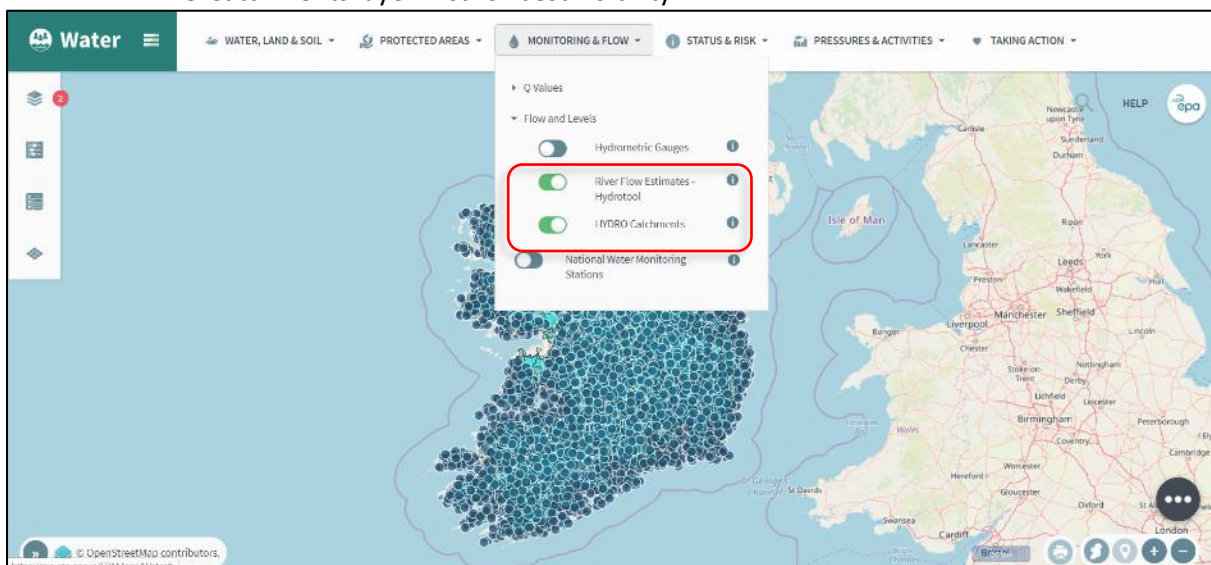
How do I use the river flow estimates layer?

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

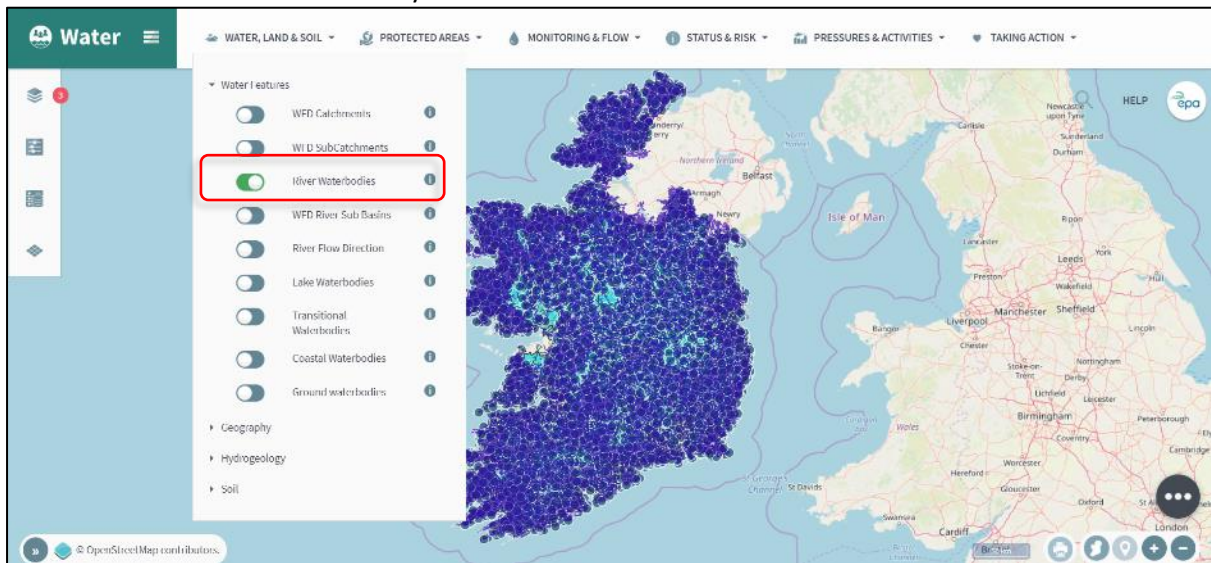
1. Open the EPA Water maps viewer.



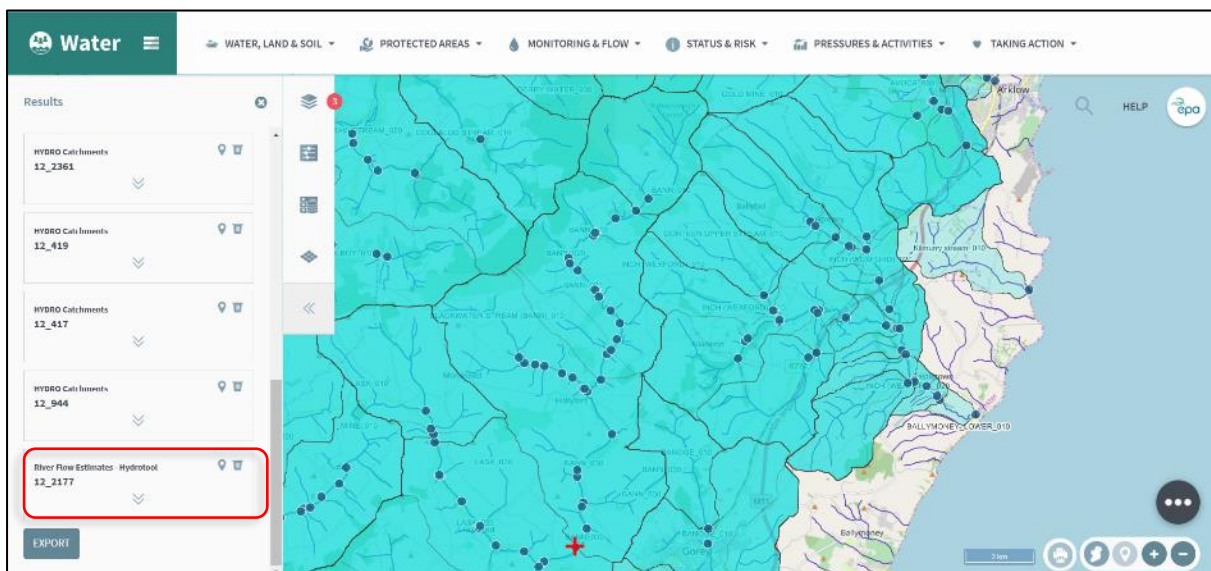
2. Go to the >Monitoring & Flow Tab and open the >Flow and Levels drop down menu. Turn on BOTH >HYDRO Catchments AND the >River flow estimates - HydroTool layers. Turn on the >HYDRO Catchments layer first for best visibility.



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 app interface. On the left, a table displays flow estimates for Hydrocatchment 12_2177. A red box highlights the 'View contributing catchment' link. The main map area shows a geographical view of the region with various catchment areas highlighted in green and blue.

Hydro Catchment	View contributing catchment
12_2177	
RWSEC_CD	12_2177
CatchmentArea Km2	55.134
Easting	311540
Northing	152660
FARL	1
NATQ1	5.31221
NATQ5	3.3001
NATQ10	2.40714
NATQ20	1.07071
NATQ30	1.2939
NATQ40	0.946626
NATQ50	0.773904
NATQ60	0.601201
NATQ70	0.462493
NATQ80	0.345882
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 app interface. On the left, a table displays flow estimates and various parameters. A red box highlights a section of the table containing parameters from NATQ10 to NATMM11. The main map area shows a geographical view of the region with various catchment areas highlighted in green and blue.

NATQ10	5.31221
NATQ20	1.07071
NATQ30	1.2939
NATQ40	0.946626
NATQ50	0.773904
NATQ60	0.601201
NATQ70	0.462493
NATQ80	0.345882
NATQ90	0.23084
NATQ95	0.184189
NATQ99	0.122818
NATMM1	1.12875
NATMM2	1.94027
NATMM3	1.98926
NATMM4	1.35153
NATMM5	0.965717
NATMM6	0.714822
NATMM7	0.827381
NATMM8	0.693132
NATMM9	0.002601
NATMM10	0.54777
NATMM11	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.