

HiFlows-UK (AfA120)

Dataset Description

HiFlows-UK is a dataset of peak flow and levels at river flow gauging stations.

Data is available for sites operated by Environment Agency (England and Wales authority) and other UK gauging authorities including SEPA (Scotland authority), DARD (NI authority).

The main users are gauging authorities and consultants. The data and metadata are freely available on the Environment Agency [web-pages](#).

The primary purpose of the dataset is to allow flood peak data of various sources to be stored together and made readily available for tasks such as flood frequency analysis.

The data in HiFlows-UK is geo-referenced .

The AMAX and POT Data as well as station and catchment descriptors are available to view on the web-pages as text, tables and/or charts. The data and metadata are also available as downloadable files for use in flood estimation software such as Win-Fap FEH and ReFH, as well as in Excel. Version notes and a list of the gauging stations are also available. Supplementary information such as a glossary and technical notes are provided

Details on the use of HiFlows-UK can be found in the FEH and the EA Flood Estimation Guidelines.

Price Category: EA Opendata

Attribute Name	Attribute Description
Station name	Station location name
NRFA Reference	National River Flow Archive (Unique) reference
Gauging Authority	Environment Agency Region, SEPA, DARD operating the site
Gauging Authority reference	Reference used by gauging authority – may be the same as NRFA reference
Watercourse	e.g. Wye
Area	Environment Agency Area, or equivalent
Hydrometric Area	e.g. '039'
NGR	AA999999 format
Catchment Area and Source of Info	e.g. '137.3 km ² IH Data Sheet'.
Station type	e.g. 'C' for Crump, 'EM' for Electromagnetic, 'VA' for Velocity/Area, 'US' for Ultrasonic.
FEH Site	Yes/No – Whether included in the Flood Estimation Handbook
POT threshold	Flow value, above which individual peaks have been extracted

Attribute Name	Attribute Description
Status	'Permanent' or 'closed'
Station description	Details of control structure, modularity, instrumentation, datum, surveys, and hydraulic factors affecting flow calculation.
Rating Development	Method used to calculate flows, and indication of any limitations to range of calculation.
Indicative suitability for QMED	Assessment of standard factors affecting reliability and usability of QMED value.
Indicative suitability for pooling	Assessment of standard factors, affecting appropriateness for pooling methodology.
Catchment Description	Description of catchment eg land use, geology and hydrogeology
Artificial Influences	Indication of any significant artificial influences on flows, i.e. major discharges and abstractions.
Catchment changes	Indication of any major changes to the catchment
Location map	
Station start	Date records begin
Station closed	Date records end (if applicable)
Digital data start	Date from which digital recording starts
Digital data end	Date digital records end (if applicable)
Chart data start	Date from which chart records start
Chart data end	Date chart records end (if applicable)
CEH POT data start	Date from which Peaks over Threshold start
CEH POT data end	Date Peaks over Threshold end (if applicable)
Date of last update	Date records were last updated
Measured parameter	e.g. Stage, Flow
How this is measured	Measurement technique e.g. Ultrasonic
Bankfull stage	Height above which water will spill over the bank
Height of wing walls	Height of concrete retaining walls where there is a structure such as a weir.
Maximum gauged flow	The highest flow at which a confirmatory check gauging has been taken
Maximum gauged level	The highest level at which a confirmatory check gauging has been taken
Primary purpose	The reason why the gauging station was installed (Flood Warning, Water Resources, Multi-Purpose etc)
Method for gauging high flows	
Any previous method	
Catchment Descriptors	
Area	Catchment Area
SAAR	Average annual rainfall (1961-1990)
BFIHOST	Baseflow Index from Hydrology Of Soil Type
PROPWET	Proportion of the time catchment is wet (specifically, the proportion of time when Soil Moisture deficit was equal to, or below, 6mm during 1961-90)
FARL	Flood Attenuation from Rivers and Lakes: measure of the relative sizes of any reservoirs and the total catchment area.
URBEXT	Extent of urbanisation in catchment

Attribute Name	Attribute Description
Relative Images	Image of gauging station
AMAX (Annual Maxima)	
Rank	Ranking of peak in the annual maxima series
Water Year	Water year of this record
Date	Date of annual maximum
Time	Time of annual maximum
Stage	Stage of annual maximum
Flow	Flow of annual maximum
Rating	Rating usage (e.g. in range, or extrapolated)
Source	Type of source for records (e.g. microfiche, digital archive)
Ref	Reference number of rating
Available Data	Percentage amount of water year missing. Used when a significant part of a year is missing e.g. at start or end of record, station washed away in flood, long-term refurbishment project.
Comments	Reference to any technical assessment/detail/clarification
POT	
Rank	Ranking of peak in the POT (peaks over a threshold) series
Date	Date of peak
Time	Time of peak
Stage	Stage of peak
Flow	Flow at peak
Rating	Rating (flow calculation equation) usage (e.g. in range, or extrapolated)
Source	Type of source for records (e.g. WISKI timeseries, digital archive)
Ref	Reference number of rating
Comments	Reference to any technical assessment/detail/clarification
Ratings	
Ref	Reference number of rating
Limb	Limb (sub-section) of rating
Details	Review details of rating
Equation	Rating equation itself
Start Date	Start date of applicability
Max Stage	Maximum stage at which limb applies.
End Date	End date of applicability
Missing Data	
Start Date	Start date of missing data period
Start Time	Start time of missing data period
End Date	End date of missing data period
End Time	End time of missing data period
Days Missing	Total number of missing days in this period
Datum History	
Datum Start Date	Date from which datum is applicable
Datum End Date	Date datum applicability ends (if datum no longer applicable)
Datum (mAOD)	Height of datum
Control Details	Type of river channel control at site
Other Comments	Comments on datum applicability