

# HydroBASINS Pour Points

*Ancillary point data layers  
complementing the HydroBASINS global basin and sub-basin delineations  
derived from HydroSHEDS data at 15 arc-second resolution*

## *Technical Documentation Version 1.0*

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### **1. Data description**

The HydroBASINS Pour Points product provides a series of point data layers that accompany the HydroBASINS (version 1.c) and BasinATLAS (version 1.0) polygon data layers which depict watershed boundaries and sub-basin delineations at a global scale. Specifically, each data layer of the HydroBASINS Pour Points product corresponds to a HydroBASINS sub-basin layer (i.e., ranging from Pfafstetter level 1 to 12) and contains the respective pour point(s) of each sub-basin. For more information on the HydroBASINS and BasinATLAS products, on the hierarchical nesting of sub-basins, and on the underpinning HydroSHEDS hydrographic database, please refer to the individual products and their Technical Documentations as provided on the HydroSHEDS webpage (see <https://www.hydrosheds.org/products>).

A pour point is defined as the outlet point of a sub-basin, i.e., the location at which the river network drains into the next downstream sub-basin. Technically, the pour point is extracted from the underpinning HydroSHEDS data framework (at 15 arc-second resolution) at the center of the grid cell which shows the highest flow accumulation value within the sub-basin. In the attribute table that accompanies each point layer, every pour point lists the HydroBASINS ID of its associated sub-basin.

For sub-basins that drain into the ocean, there are two constellations: a) if the sub-basin represents the most downstream sub-basin of a larger river basin, it will drain into the ocean at one single pour point; or b) if the sub-basin represents an aggregation of multiple small coastal watersheds that drain into the ocean between the outlet points of larger rivers, then the sub-basin will have multiple pour points. In the attribute table of the pour point layer, each of the single or multiple coastal pour points will show the HydroBASINS ID of the associated sub-basin in which it is located.

Sub-basins that do not drain into the ocean and that do not have a downstream neighbor into which they drain (i.e., sub-basins that represent inland depressions) have one single pour point located at the center of the grid cell with the lowest elevation within the sub-basin.

Note that the HydroBASINS Pour Points layers are only available for the standard HydroBASINS layers (i.e., without lakes), yet not for the customized version (with lakes).

## 2. Data format and distribution

### 2.1 File name syntax

HydroBASINS Pour Points data are provided as global point layers in shapefile format, divided into one layer for each Pfafstetter level. File names follow the syntax:

*hybas\_pour\_levXX\_v1.shp*

where *XX* indicates the Pfafstetter level (01-12).

### 2.2 Attribute table

Each HydroBASINS Pour Points shapefile contains an attribute table with a column 'Hybas\_ID' which contains the 10-digit HydroBASINS ID of the associated sub-basin.

### 2.3 Data format and projection

The point layers of the HydroBASINS Pour Points product are distributed in ESRI 'shapefile' format. Each shapefile consists of five main files (.dbf, .sbn, .sbx, .shp, .shx). Additionally, projection information is provided in an ASCII text file (.prj). All shapefiles are projected in a geographic coordinate system (degrees latitude/longitude), referenced to datum WGS84.

### 2.4 Data distribution

HydroBASINS Pour Points data are available electronically in compressed zip file format from <https://www.hydrosheds.org/products/hydrobasins>. There is one zip file for each Pfafstetter level, and one zip file containing all 12 levels. To use the data files, the zip files must first be decompressed. Each zip file includes a copy of the HydroBASINS Pour Points Technical Documentation.

## 3. Disclaimer and acknowledgement

### 3.1 License agreement

The HydroBASINS Pour Points data are covered by the same License Agreement as the HydroSHEDS database, which is available at <https://www.hydrosheds.org/products/hydrosheds>. By downloading and using the data the user agrees to the terms and conditions of this license.

### 3.2 Acknowledgement and citation

Citations and acknowledgements of the HydroBASINS Pour Points data should be made as follows:

*Lehner, B., Grill G. (2013): Global river hydrography and network routing: baseline data and new approaches to study the world's large river systems. Hydrological Processes, 27(15): 2171–2186. <https://doi.org/10.1002/hyp.9740>. Data available at [www.hydrosheds.org](http://www.hydrosheds.org).*