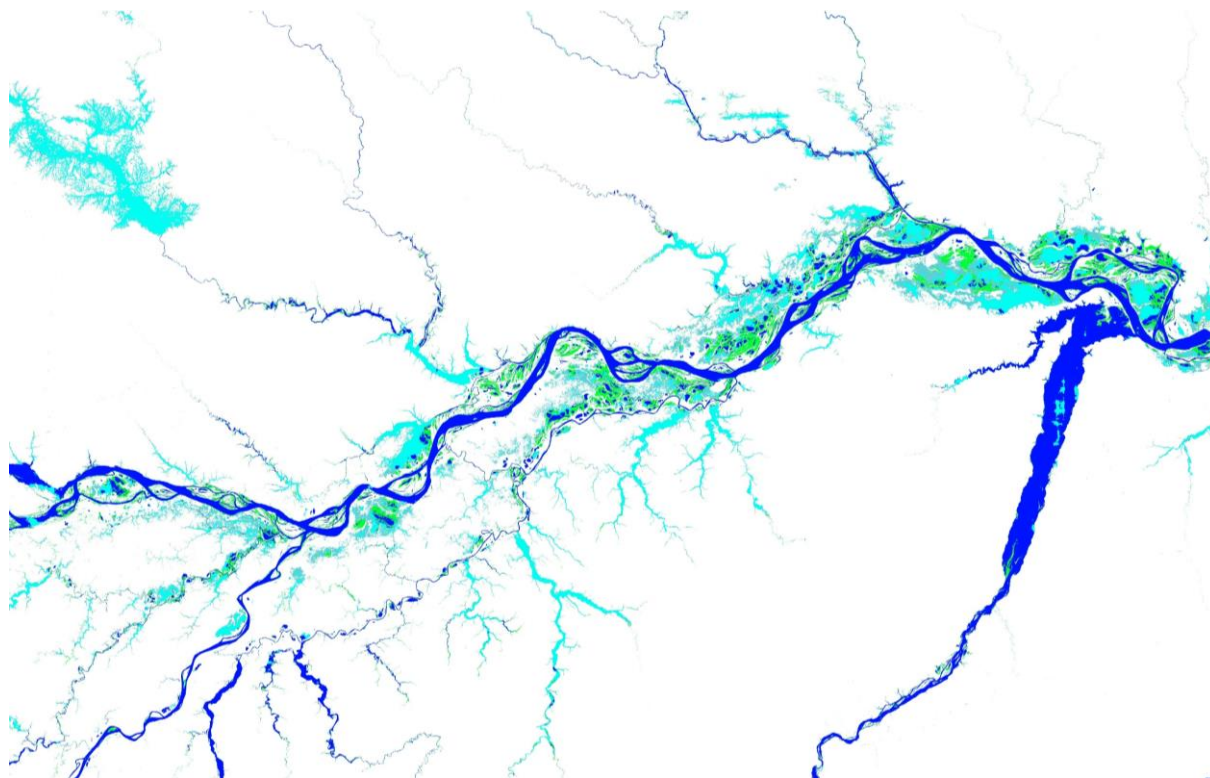


Surface Area of Rivers and Lakes (SARL) dataset

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Background

The Surface Area of River and Lakes (SARL) datasets have been developed to show the 36-years of seasonal and permanent water surface area change in rivers and lakes.

The dataset has been developed by classifying changing water levels of riverine or lacustrine environments based on the extent of river channel belts. Riverine waterbodies represent both river channels as well as smaller oxbow/billabong lakes that have previously been associated with a river system as defined by the river channel belt extent. Lakes represent waterbodies outside the channel belt and include both natural and man-made reservoirs as well as wetlands and floodplain regions.

Permanent waterbodies represent at least 12 months of water occurrence annually (or 100% of available pixels) based on the archive on Landsat imagery. Seasonal waterbodies represent at least 1 month of water occurrence but less than 12 months annually (or 100% of available pixels).

Data Format and Description

Raster Dataset

The raster dataset is provided as a 38-band raster in 10-degree cloud-optimized GeoTIFF files in a WG84 projection. Each raster band corresponds to one year ranging from 1984 until 2022. The files are subdivided into 8 folders starting with the naming convention SARL_x.zip.

Table 1 describes the raster values and corresponding classification in the SARL dataset.

Table 1 – SARL Dataset Values

| Value | Description |
|-------|------------------|
| 0 | Background Value |
| 1 | Permanent River |
| 2 | Permanent Lake |
| 3 | Seasonal River |
| 4 | Seasonal Lake |
| 5 | No Data Lakes |
| 6 | No Data Rivers |

Vector Dataset

The vector dataset shows a summary of the raster statistics within HydroSHEDS drainage catchments as summarized in Table 2 below. The dataset is available as a GeoPackage with a WGS84 projection.

Table 2 – SARL Attribute Table

| Category | Field Name | Type | Description |
|--------------------|--------------------|---------|--|
| <u>Information</u> | | | |
| | <i>HYBAS ID</i> | Integer | Unique ID identifier for the Hydrosheds catchments. |
| | <i>Year</i> | Integer | Year of the water acquisition |
| <u>River Data</u> | | | |
| | <i>RiverS</i> | Double | Surface area of seasonal water extent in river channel belts in km ² . |
| | <i>P_RiverS</i> | Double | Percentage change in seasonal water extent in river channel belts since available data. |
| | <i>AP_RiverS</i> | Double | Annual percentage change in seasonal water extent in river channel belts. |
| | <i>RiverP</i> | Double | Surface area of permanent water extent in river channel belts. |
| | <i>P_RiverP</i> | Double | Percentage change in permanent water extent in river channel belts since available data. |
| | <i>AP_RiverP</i> | Double | Annual percentage change in permanent water extent in river channel belts. |
| | <i>NoDataRiver</i> | Double | Surface area of no data values within river channel belt extent. |
| <u>Lake Data</u> | | | |
| | <i>LakeS</i> | Double | Surface area of seasonal water extent of lakes in km ² . |
| | <i>P_LakeS</i> | Double | Percentage change in seasonal water extent of lakes since available data. |
| | <i>AP_LakeS</i> | Double | Annual percentage change of seasonal water extent of lakes. |
| | <i>LakeP</i> | Double | Surface area of permanent water extent of lakes. |
| | <i>P_LakeP</i> | Double | Percentage change in permanent water extent of lakes since available data. |
| | <i>AP_LakeP</i> | Double | Annual percentage change in permanent water extent of lakes. |
| | <i>NoDataLake</i> | Double | Surface area of no data values outside river channel belt extent. |

Interactive Map

The online interactive map accompanying the datasets is available at <https://bjornburrnyberg.users.earthengine.app/view/waterchange>

License and Citation

The datasets are publicly available under a CC0 license.

We kindly ask that if you use the data in your research, reports, or documentation to include a citation to the original dataset.