**Source-to-Sink Database V0.1**

The Source-to-Sink Database Version 0.1 (S2SV0.1) provides a digital documentation and compilation of morphological information on modern source-to-sink systems.

Null values = 0 or -9999

Coordinate System = Cylindrical\_Equal\_Area / GCS\_WGS (1984)

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| **Catchment Segment** | | |
| **Parameter** | **Description** | |
| *Catchment ID (FID)* | Catchment ID | |
| *Area (Area)* | Catchment area (km2) | |
| *Maximum Relief (R)* | Maximum catchment relief (km) | |
| *% < 10 m/km (10m\_km)* | % of catchment area with < 10 m/km in relief | |
| *% Terrestrial Sink (Sed\_Basin)* | % of catchment area defined as a terrestrial sink | |
| *Terrestrial Sink ID (S\_Basin\_ID)* | Terrestrial sink ID | |
| *River Length (River\_L)* | Longest river channel (m) | |
| *River Profile Gradient (River\_S)* | Average river profile gradient (m/km) | |
| *Shortest Path (SP)* | Shortest path distance from river mouth to river pathway (m) | |
| *Water Discharge (Q)* | Water discharge (km3/yr) based on Syvitski and Milliman (2007) | |
| *Total Suspended Sediment Load (Qs)* | Total suspended sediment load (MT/yr) based on the BQART equation of Syvitski and Milliman (2007). | |
| *B factor (B)* | B factor of the BQART equation describing glacial erosion, dam trapping efficiency, human influence and average lithology (see Syvitski and Milliman, 2007). | |
| *L factor (L)* | Average lithology factor of the BQART equation ranging from 0.5 to 3 (see Syvitski and Milliman, 2007). | |
| *T factor (T)* | Average annual catchment temperature (C). | |
| *I factor (I)* | I factor representing the proportion of catchment area with glacial coverage ranging from 1 to 10 (see Syvitski and Milliman, 2007). | |
| *Ternary Process (Process)* | Ternary process classification at the shoreline of a catchment as either W (wave), T (tide) or fluvial (F) based on Nyberg and Howell (2016). | |
| *Tectonic Regime (Structure)* | Primary tectonic regime of the catchment: Foreland, Intracratonic, Forearc, Passive Margin, Extensional or Strike-Slip | |
| *Climate (MainClass)* | Primary climate of the catchment: Warm temperate, arid, polar, equatorial or snow. | |
| *Body of water (BoW)* | The catchment contributes to this body of water. | |
| *Continental Shelf Type (Shelf)* | Type of continental shelf (1 – narrow shelf < 75km; 2 - epicontinental seaway; 3 – wide shelf > 75km; 5 - endorheic) | |
| *MarginType* | Indication of an active or passive continental shelf/slope margin | |
| *Area (Area\_1)* | Milliman and Farnsworth (2011) observed catchment area (km2) | |
| *Water Discharge (Q\_1)* | Milliman and Farnsworth (2011) observed water discharge (km3/yr) | |
| *Pre-dam Water Discharge (PD\_Q)* | Milliman and Farnsworth (2011) observed pre-dam water discharge (km3/yr) | |
| *Runoff (Runoff)* | Milliman and Farnsworth (2011) observed runoff (Q\_1/Area\_1) | |
| *Total Suspended Sediment Load (TSS)* | Milliman and Farnsworth (2011) observed total suspended sediment load (MT/yr) | |
| *Pre-dam Total Suspended Sediment Load (TSS)* | Milliman and Farnsworth (2011) observed pre-dam total suspended sediment load (MT/yr) | |
| *Maximum Relief (Max\_Elev)* | Milliman and Farnsworth (2011) maximum calculated catchment relief (m) | |
| *Sediment Yield (SedYield)* | Milliman and Farnsworth (2011) observed sediment yield (QS/Area\_1) | |
| *Average Annual Sediment Concentration (ASedConc)* | Milliman and Farnsworth (2011) observed sediment yield (QS/Area\_1) | |
| *Total Dissolved Load (TDS)* | Milliman and Farnsworth (2011) observed total dissolved load (MT/yr) | |
| *Pre-dam Total Dissolved Load (PD\_TDS)* | Milliman and Farnsworth (2011) observed pre-dam total dissolved load (MT/yr) | |
| *Dissolved Yield (DisYield)* | Milliman and Farnsworth (2011) observed average annual dissolved yield (TDS/Area\_1) | |
| *Dissolved Concentration (DisConc)* | Milliman and Farnsworth (2011) observed average annual dissolved concentration (TDS/Q\_1) | |
| **Continental Shelf Segment** | | |
| *Waterbody Length (E\_Length)* | Waterbody/estuarine length (m) measured along the bathymetric profile |
| *Shelf Width (S\_Dist)* | Width of the continental shelf (m) measured along the bathymetric profile |
| *Shelf Depth (Shelf\_LowH)* | Depth at the continental shelf edge (m) |
| *Shelf Profile Gradient (C\_Shelf\_S)* | Gradient of the continental shelf (m/km) |
| *Sediment Thickness (Sed\_Thick)* | Average sediment thickness on the continental shelf/slope (m) |
| **Continental Slope Segment** | | |
| *Slope Length (Slope\_L)* | Length of the continental slope (m) measured along the bathymetric profile |
| *Base of Slope Depth (Slope\_LowH)* | Depth at the base of the continental slope/basin floor transition (m) |
| *Top of Slope Depth (Slope\_TopH)* | Depth at the top of the continental slope (m) |
| *Slope Profile Gradient (C\_Slope\_S)* | Average gradient of the continental slope profile (m/km) |
| *Canyon ID (C\_ID)* | Submarine canyon ID |
| *Canyon Length (C\_Length)* | Length of the submarine canyon (km) |
| *Canyon Distance (C\_Distance)* | Distance from river mouth to the submarine canyon (m) |
| *Canyon Head Frequency (C\_Freq)* | Number of canyon heads |
| *Top of Canyon Depth (C\_TopH)* | Depth at the top of the submarine canyon (m) |
| *Base of Canyon Depth (C\_LowH)* | Depth at the base of the submarine canyon (m) |
| **Submarine Fan Segment** | | |
| *Fan ID (F\_ID)* | Fan ID |
| *Fan Area (F\_Area)* | Area of the submarine fan (km2) |
| *Fan Length (F\_Length)* | Length of the submarine fan (m) |
| *Fan Width (F\_Width)* | Width of the submarine fan (m) |
| *Fan Depth (F\_Depth)* | Depth of the distal submarine fan (m) |
| *Fan Profile Gradient (F\_S)* | Average gradient of the submarine fan profile (m/km) |
| *Fan Area (Fan\_Area)* | Sømme et al. (2009) measured fan area (km2) |
| *Fan Length (Fan\_Length)* | Sømme et al. (2009) measured fan length (km) |
| *Fan Width (Fan\_Width)* | Sømme et al. (2009) measured fan width (km) |
| *Fan Depth (Fan\_Depth)* | Sømme et al. (2009) measured distal fan depth (m) |
| *Fan Volume (Fan\_Volume)* | Sømme et al. (2009) measured fan volume (km3) |