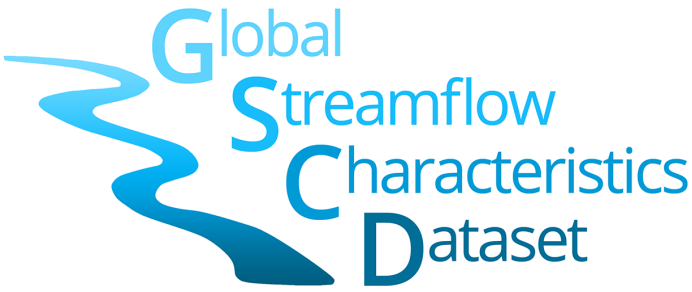

Version 1.8 documentation

August 24, 2014

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Introduction

The Global Streamflow Characteristics Dataset (GSCD) consists of global maps of 17 streamflow characteristics, such as mean annual streamflow and baseflow index, providing information about catchment behavior for the entire land surface including ungauged regions. The maps are unique in the sense that they were derived using a data-driven (top down) approach based on streamflow observations from approximately 7500 catchments around the globe, rather than using a physically-based (bottom up) process model. See Beck et al. (2014) for further details.

File details

The maps are provided in 0.125° (∼14 km at the equator) global geographic grids (WGS 84) in GeoTIFF format. The `_unc` suffix refers to "uncertainty" and the `_obs` suffix to "observed".

License agreement

Version history

v1.8 (August 24, 2014)

1. This version corresponds to the version described in Beck et al. (2014).
2. Uses regional P data for New Zealand, WWF GLWD-3 data (Lehner and Döll, 2004) for fW, and CGIAR-CSI SRTM and GTOPO30 data for ELEV and SLO.
3. Uses aridity index (AI) instead of the reciprocal, the humidity index (HI).
4. Uses square-root transformed mean annual precipitation (P_{trans}) instead of untransformed (P).
5. Added the topographic wetness index (TWI) as predictor.

v1.7 (May 8, 2014)

Uses PRISM (Daly et al., 1994) meteorological data instead of WorldClim for the USA.

v1.6 (May 6, 2014)

Uses the GAGES II catchments (Falcone et al., 2010) instead of the MOPEX catchments for the USA.

v1.5 (April 29, 2014)

1. Added 12 streamflow characteristics (BFI2, BFI3, BFI4, Q5, Q10, Q20, Q50, Q80, Q90, Q95, T50, and RC).
2. Uses catchments with only monthly streamflow data for T50, RC, and QMEAN, substantially increasing the number of catchments available for training.
3. Maps with observed values of the streamflow characteristics now included (see files with the `_obs` suffix). These maps contain values for gauged regions only.
4. Uncertainty maps correctly calculated as the per-pixel standard deviation of the transformed ensemble of estimates.
5. Improved the SNOW and fTC data used for the estimation.

v1.0 (November 13, 2013)

Initial release. Only five streamflow characteristics considered (BFI1, k, Q1, Q99, and QMEAN). This version uses the data and methodology described in Beck et al. (2013).

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