SIMPLE GLOBAL RIVER WIDTH & DEPTH DATABASE
OVERVIEW

- A simple global database of river bankfull width and depth based on HydroSHEDS
- River reaches derived from 15 arc-sec conditioned DEM
- Starting from drainage area, bankfull discharge is calculated
- Hydraulic geometry equations with published parameters to estimate width and depth

\[ w = 7.2Q^{0.5} \]
\[ d = 0.27Q^{0.3} \]
ESTIMATING BANKFULL DISCHARGE

- Approximated as flow with 2-year return period
- Regressions of flow to drainage area estimated from GRDC measurements
WIDTH MAP
COMPARISON WITH GRWL OVER AFRICA

Bias: -12.9% & RMSE: 36.8% for 20,987 reaches
VALIDATION
REMAINING ISSUES

- Some discrepancy between published website and official HydroSHEDS
- Overlay with land cover dataset to remove implausible rivers
- Working on reproducing validation with reprocessed datasets
- Will make available on Zenodo