

# **SIMPLE GLOBAL RIVER WIDTH & DEPTH DATABASE**

# OVERVIEW

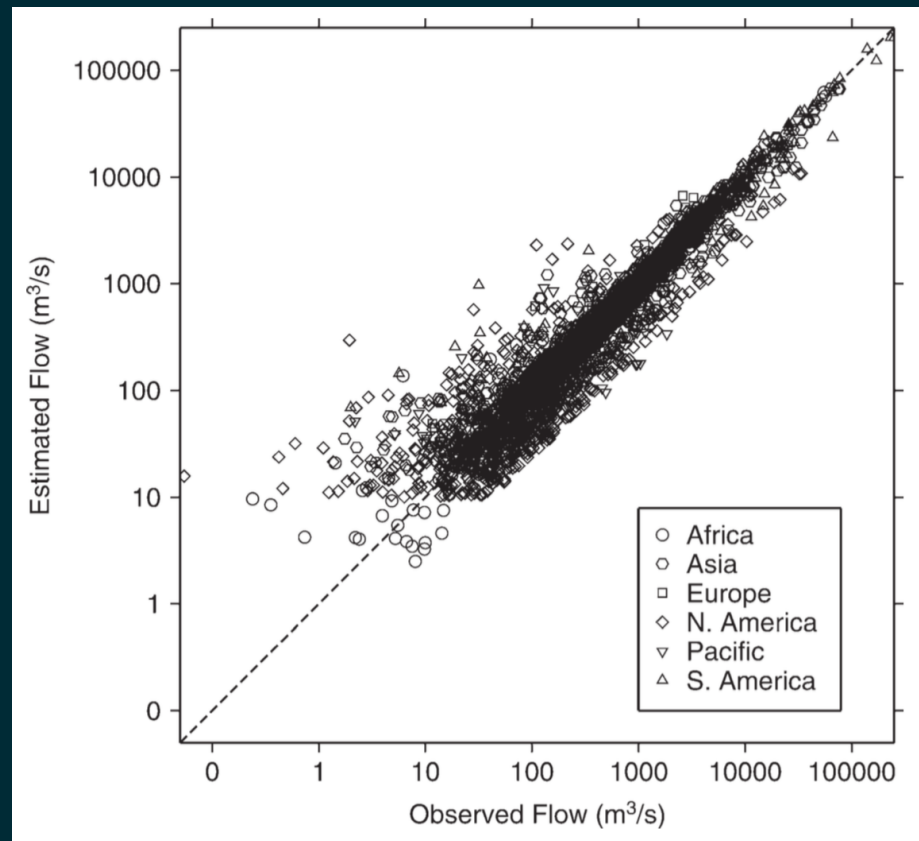
- A simple global database of river bankfull width and depth based on HydroSHEDS
- River reaches derived from 15 arc-sec conditioned DEM
- Starting from drainage area, bankfull discharge is calculated
- Hydraulic geometry equations with published parameters to estimate width and depth

$$w = 7.2Q^{0.5}$$

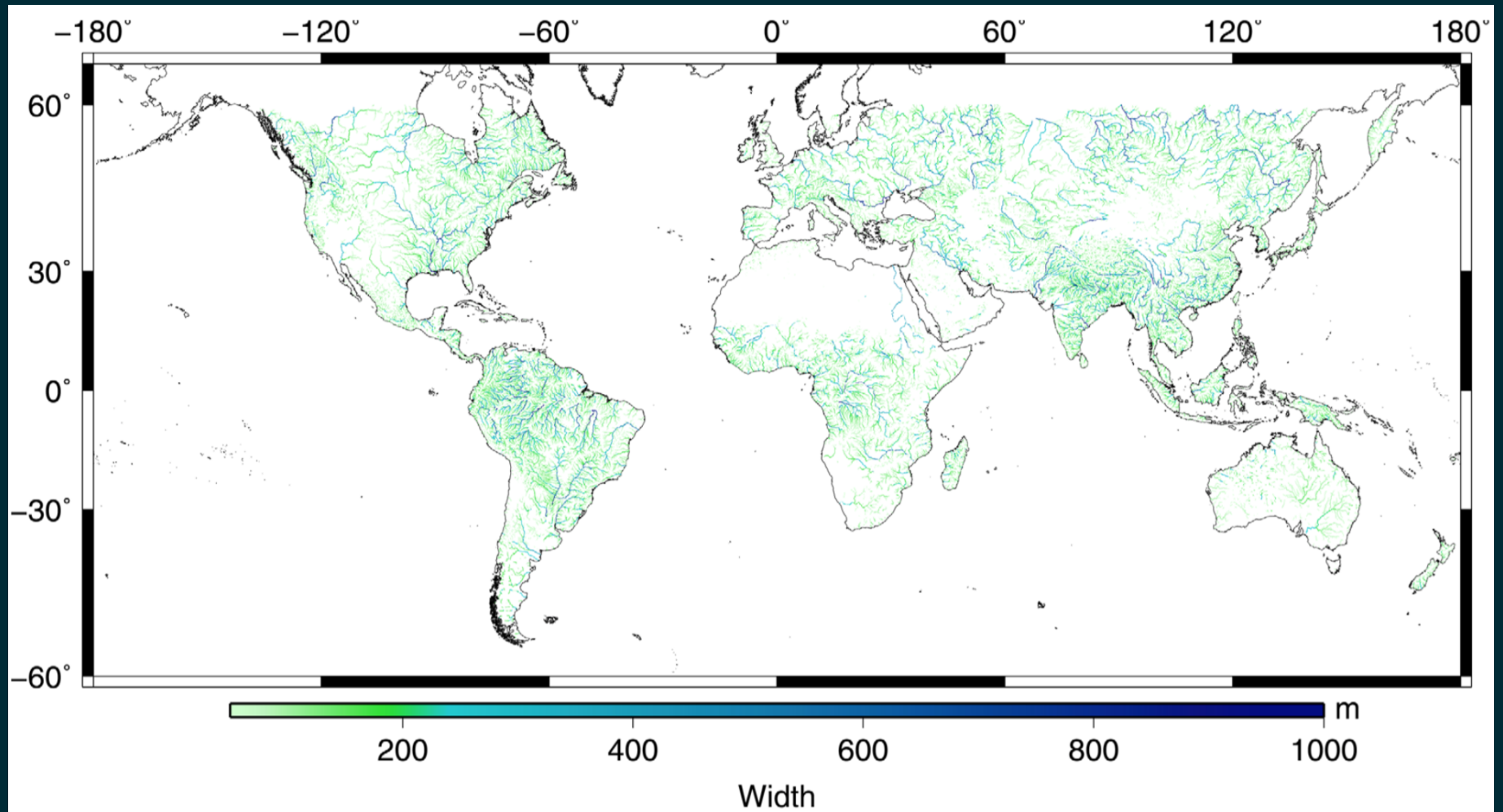
$$d = 0.27Q^{0.3}$$

# ESTIMATING BANKFULL DISCHARGE

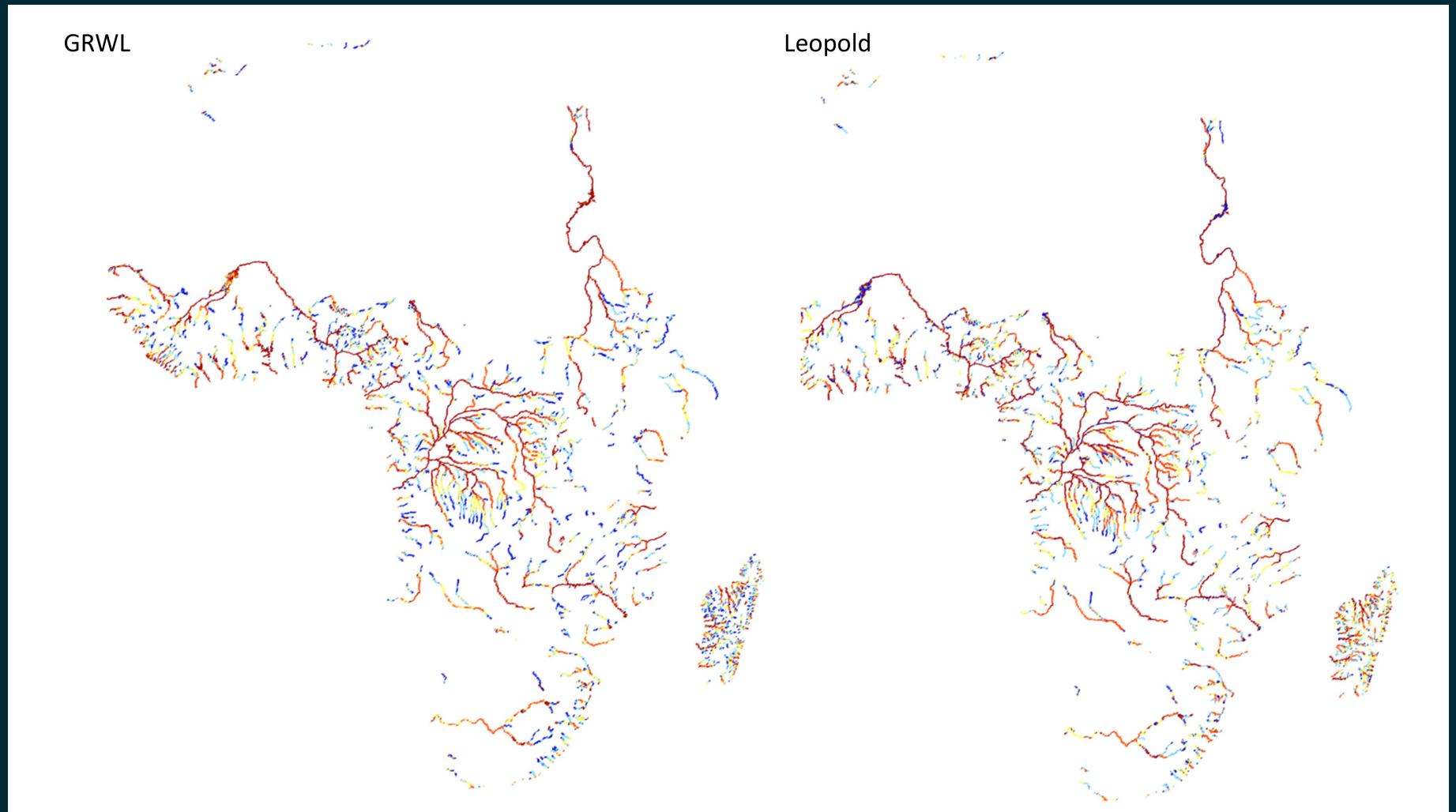
- Approximated as flow with 2-year return period
- Regressions of flow to drainage area estimated from GRDC measurements



# WIDTH MAP

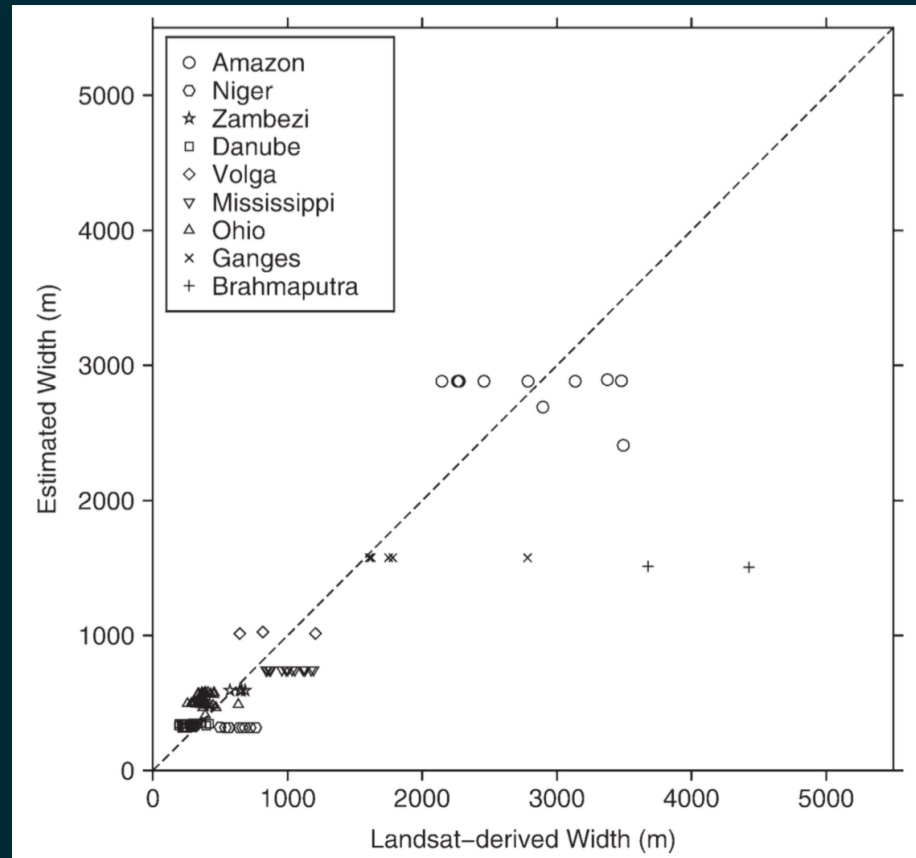


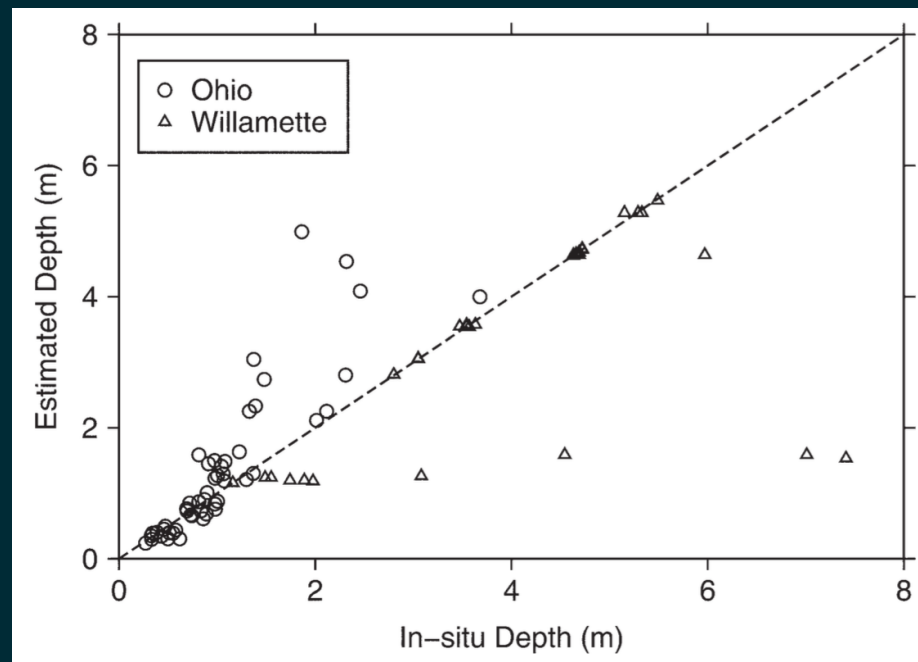
# COMPARISON WITH GRWL OVER AFRICA



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](#)