

SWOT cycle-averaged data products

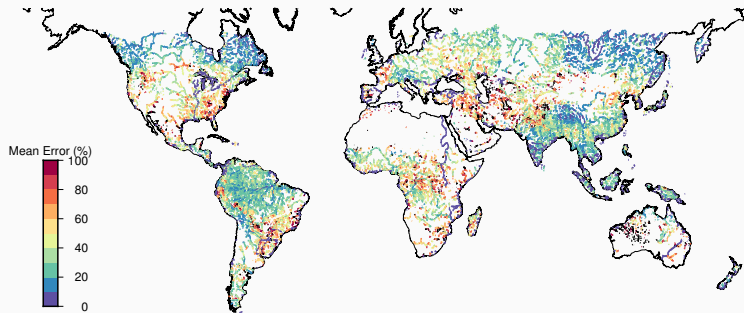
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SWOT Science Team Meeting, 28 June 2017

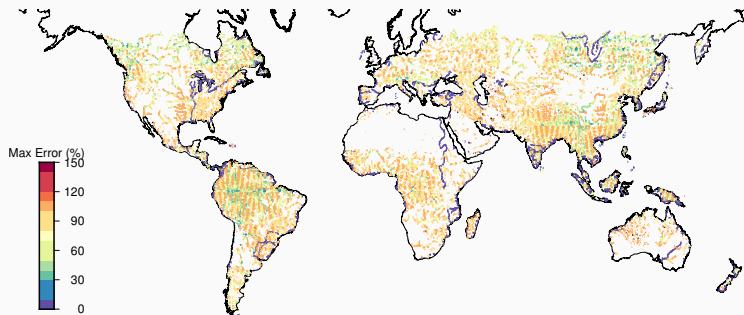
- Deriving cycle-average products will require exploring different algorithms
- Possible approaches:
 - Simple arithmetic mean
 - Spatio-temporal interpolation (e.g. work by R. Paiva; Y. Yoon among others)
 - Provide all values for cycle and either summary statistics or let user process further
 - Use a data assimilation algorithm to calculate cycle-average

- What is the expected error if we just used a simple arithmetic mean?
- Use RAPID routing model over HydroSHEDS river network to derive spatially-distributed streamflow time series
- Calculate errors of average discharge using only values sampled by SWOT versus "true" average

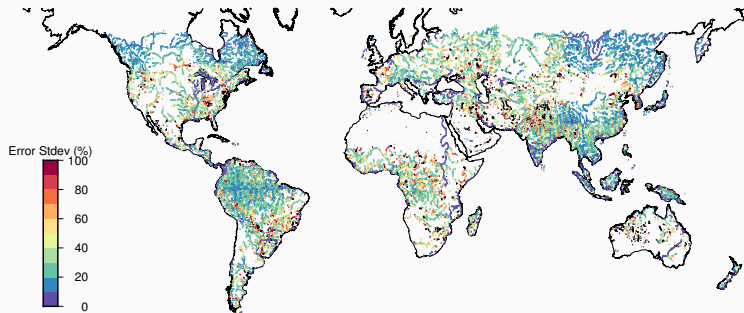
Average discharge error from simple averaging



Maximum discharge error from simple averaging

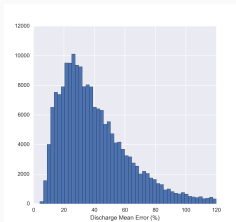


Discharge error standard deviation from simple averaging

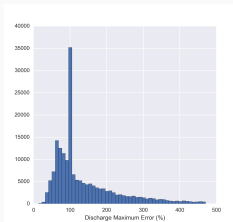


Error histograms

Mean



Maximum



Standard Deviation

