RIMORPHIS

River Morphology Information System

1st Annual Stakeholder Workshop

May 12 & 19, 2021



THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

University of North Carolina

Tamlin M. Pavelsky

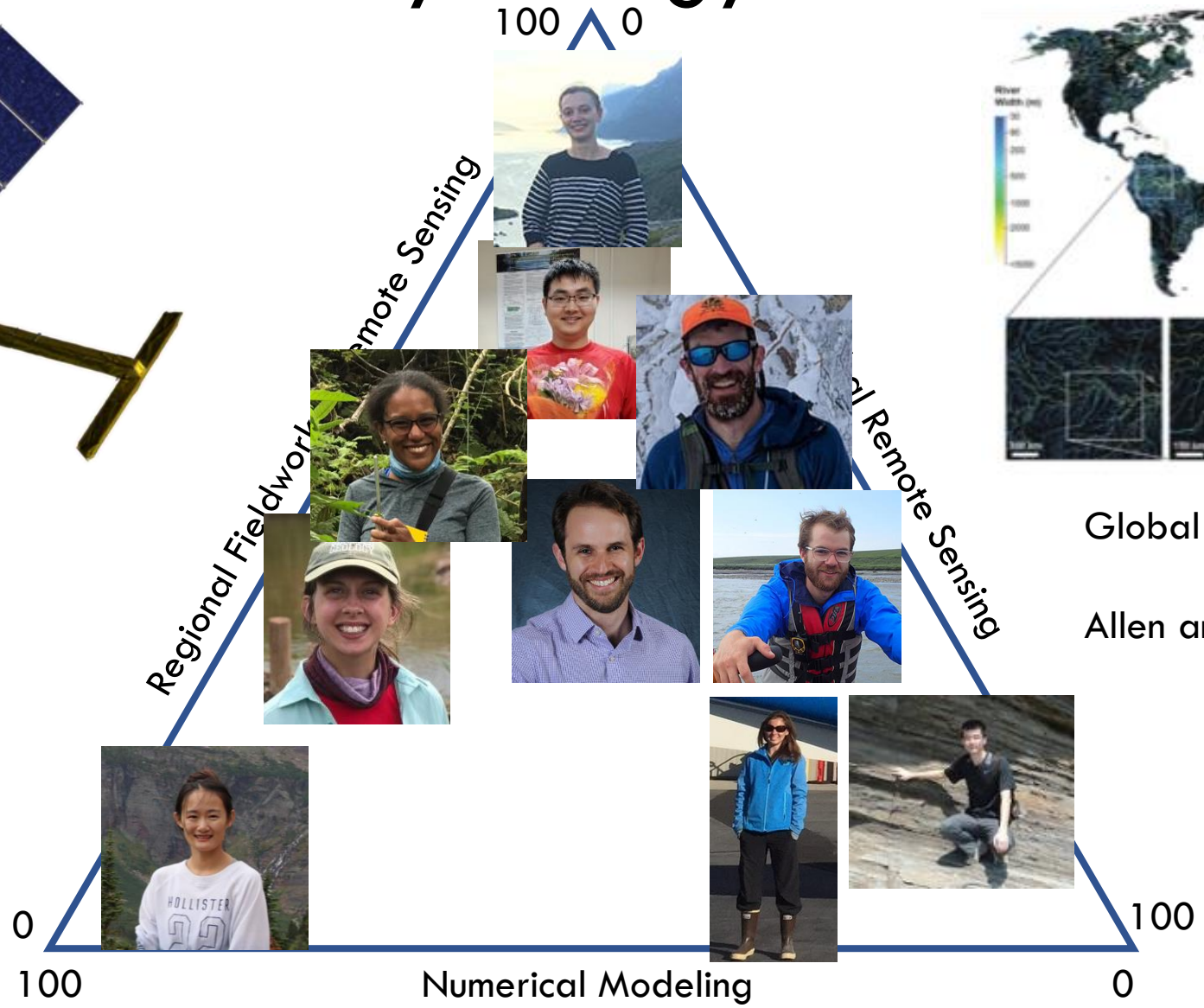
pavelsky@unc.edu

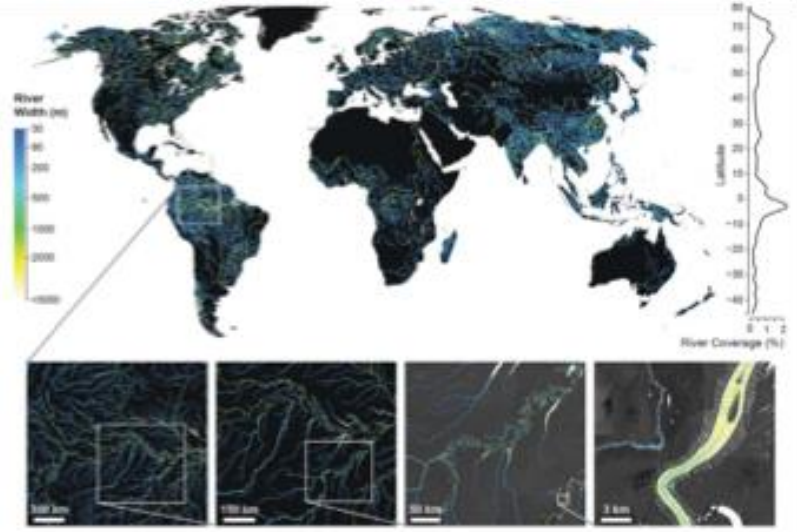
The UNC Global Hydrology Lab



Surface Water
and Ocean Topography
(SWOT) Satellite

Launches Nov 18, 2022

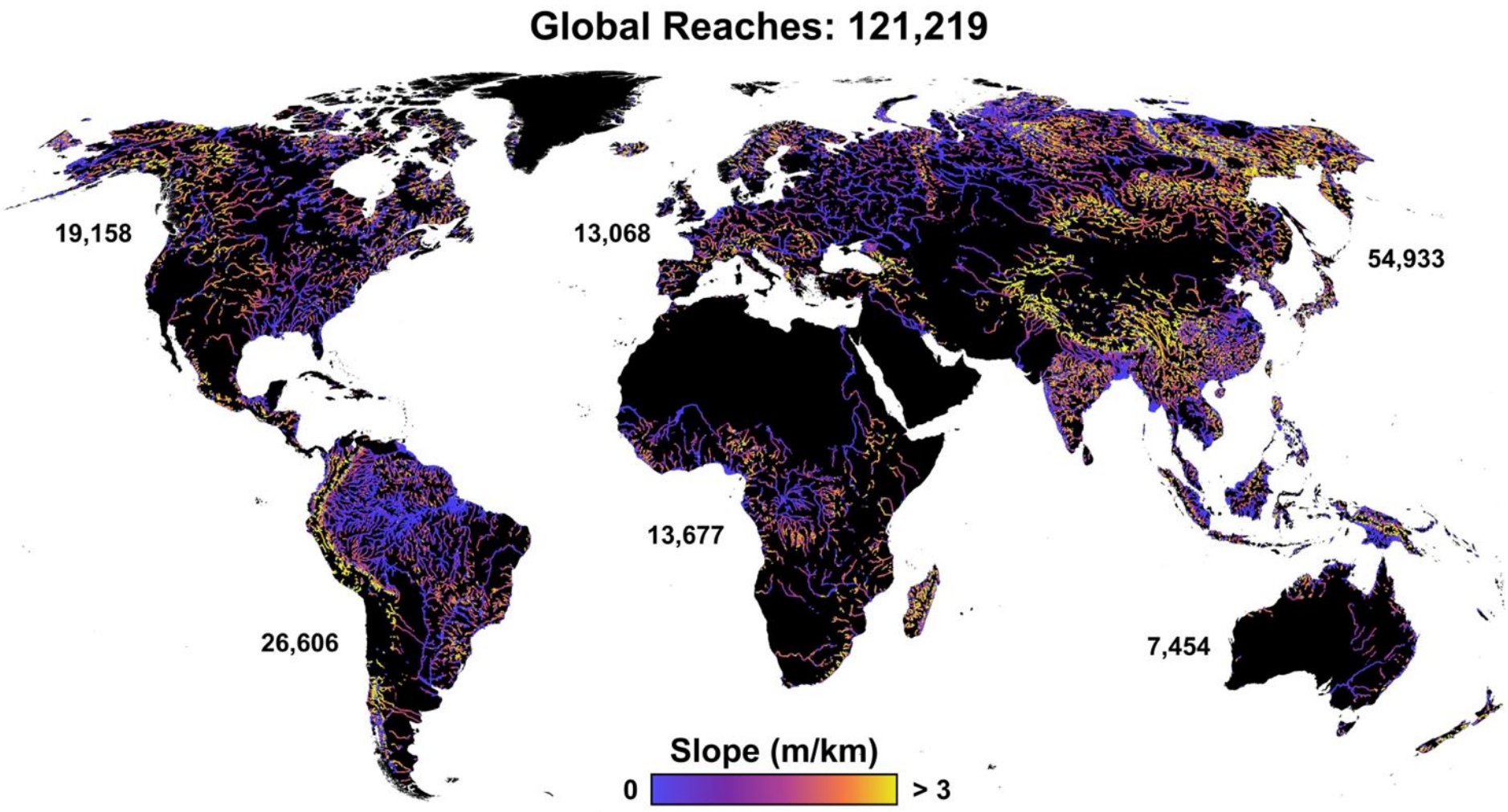




Global River Widths from Landsat

Allen and Pavelsky, 2018

River Morphology Data and Tools



SWOt River Database (SWORD)

Current

River Width (from GRWL)
Elevation
Slope
Network Topology
Meander Wavelength
Obstructions (GROD)
Historical Ice Extent

Future

SWOT Data
River Color
Suspended Sed. Conc.
Etc.

Key Tool from our Lab (RivWidthCloud): https://github.com/seanyx/RivWidthCloudPaper

Wish List for River Morphology Data & Tools

- Better global database of discharge and discharge rating curves
- Dynamic global river ice measurements from satellite imagery
- Better observational knowledge of ”canoeable” rivers (~10-100 m wide)
- Would love better tools for extracting river-related info from global radar imagery (e.g. Sentinel 1)