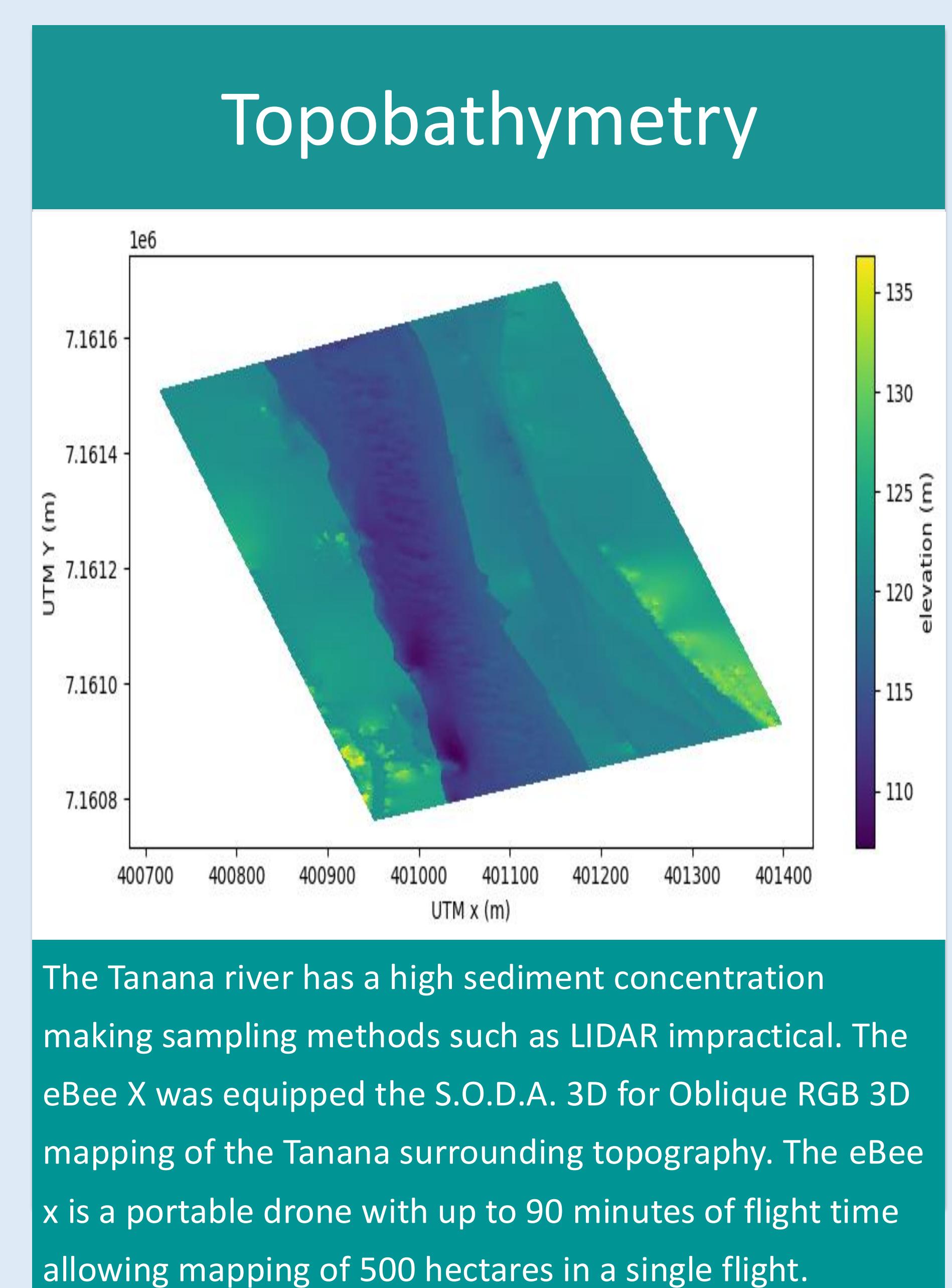
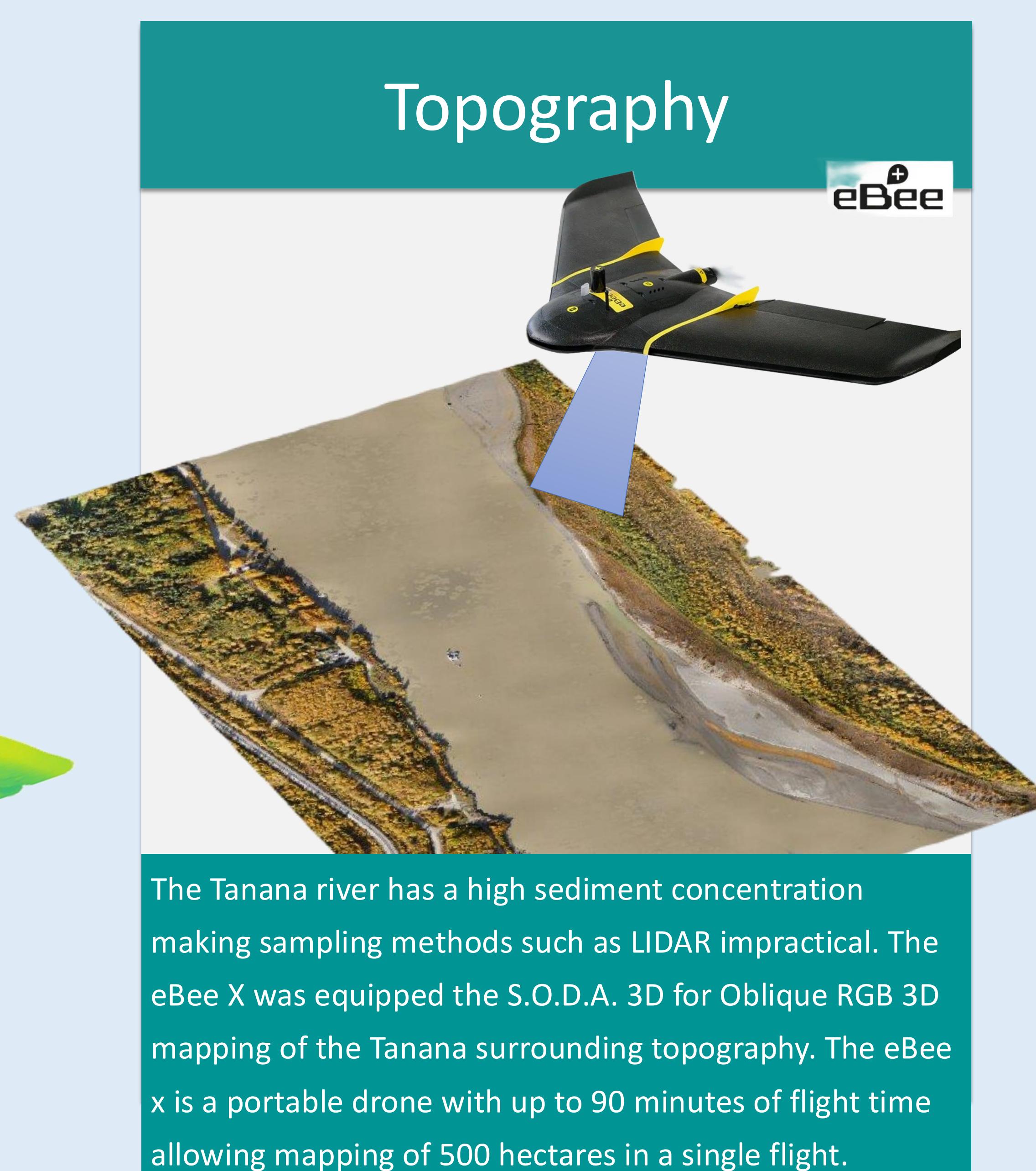
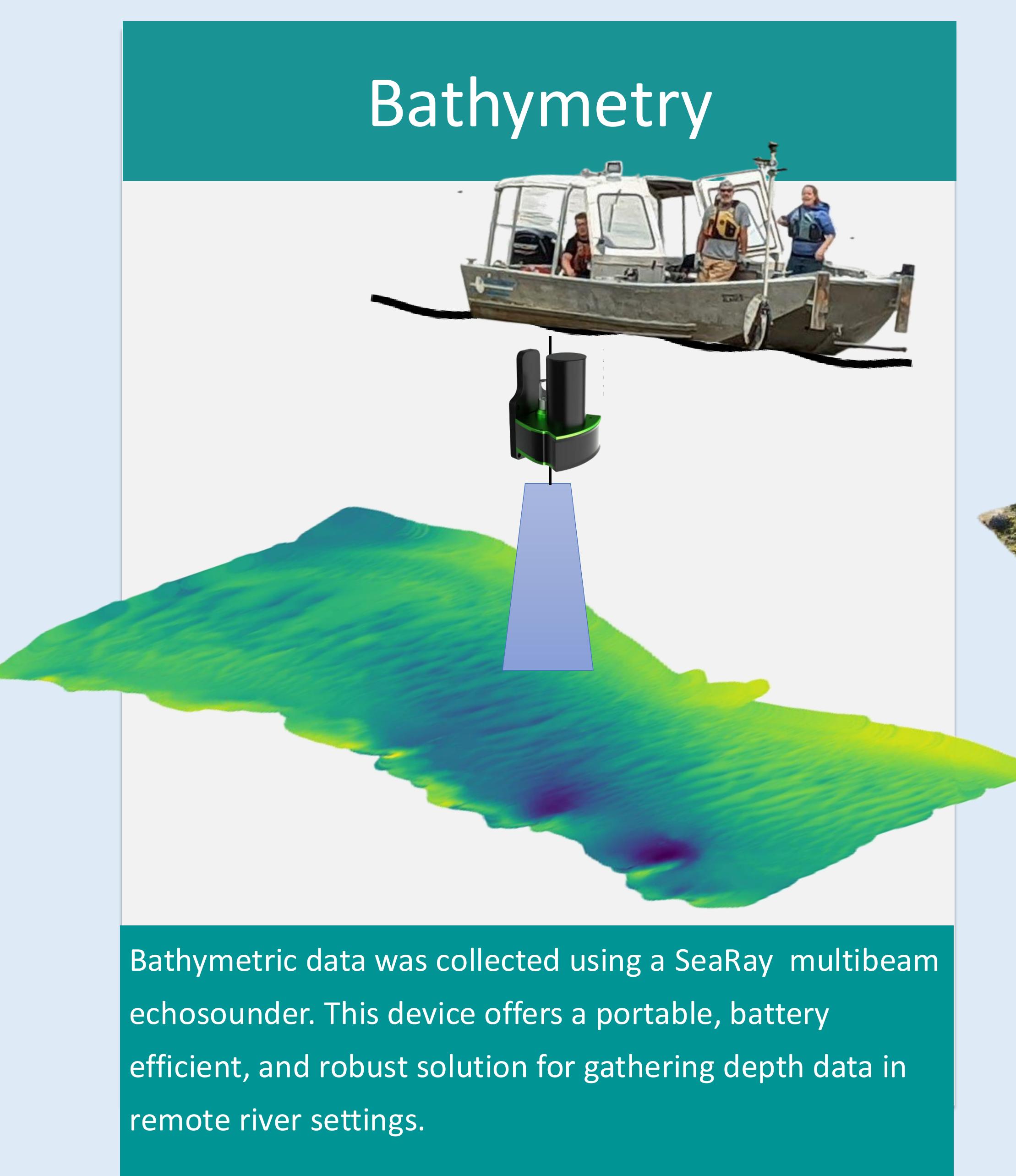


Modeling the Fluid Dynamics for the Tanana River Test Site in Alaska: A Comparison of Simulated Data and Field Measurements

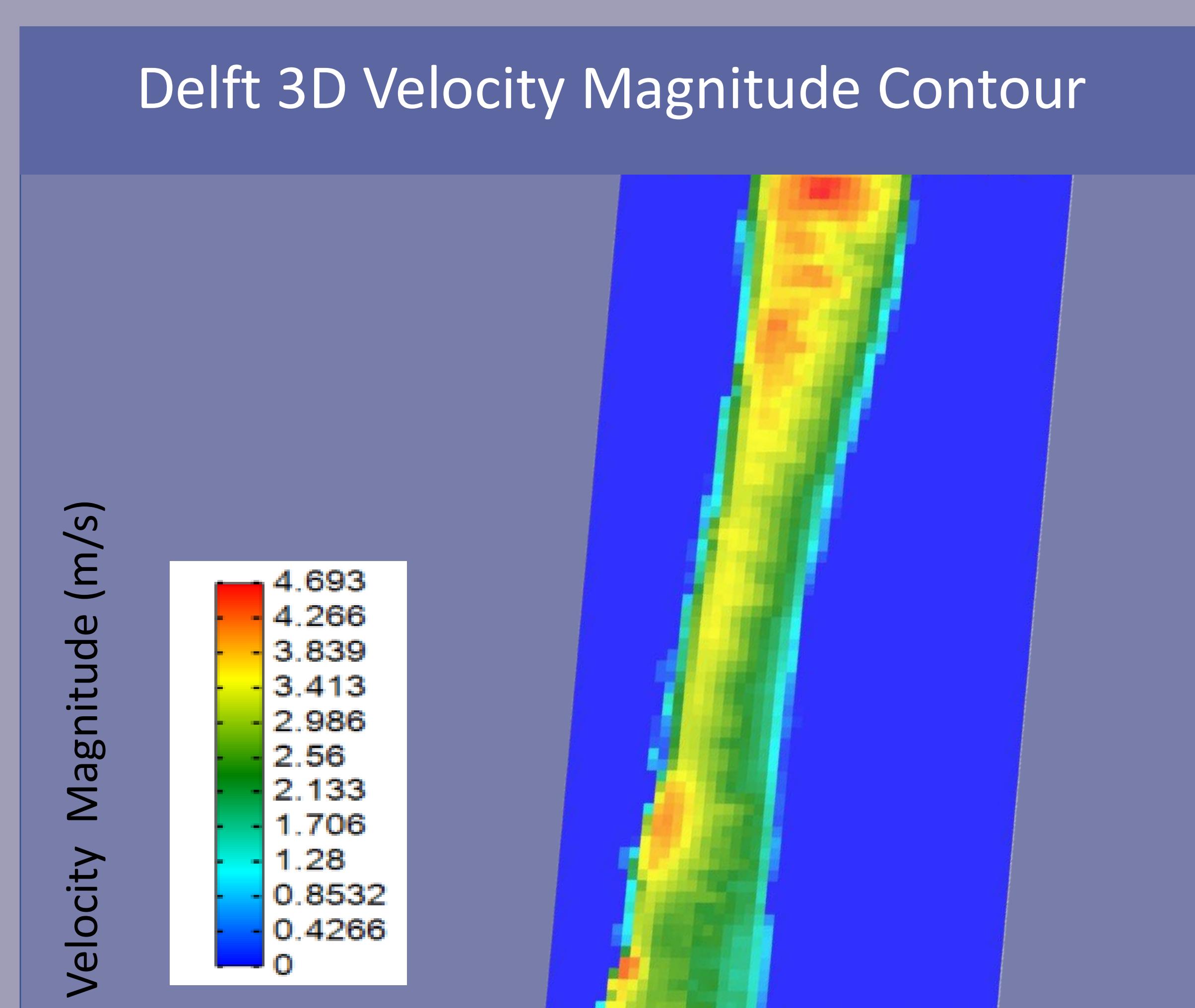
Emily Browning Alvarado, Sandia National Labs and University of Alaska Fairbanks
 Sterling Olson, Sandia National Labs
 Jack Schuster, University of Minnesota Duluth
 Adam Keester, Sandia National Labs
 James McVey, Pacific Northwest National Laboratory



Simulating the impact of CECs in rivers with high seasonal variation requires the collection of topography and bathymetry.

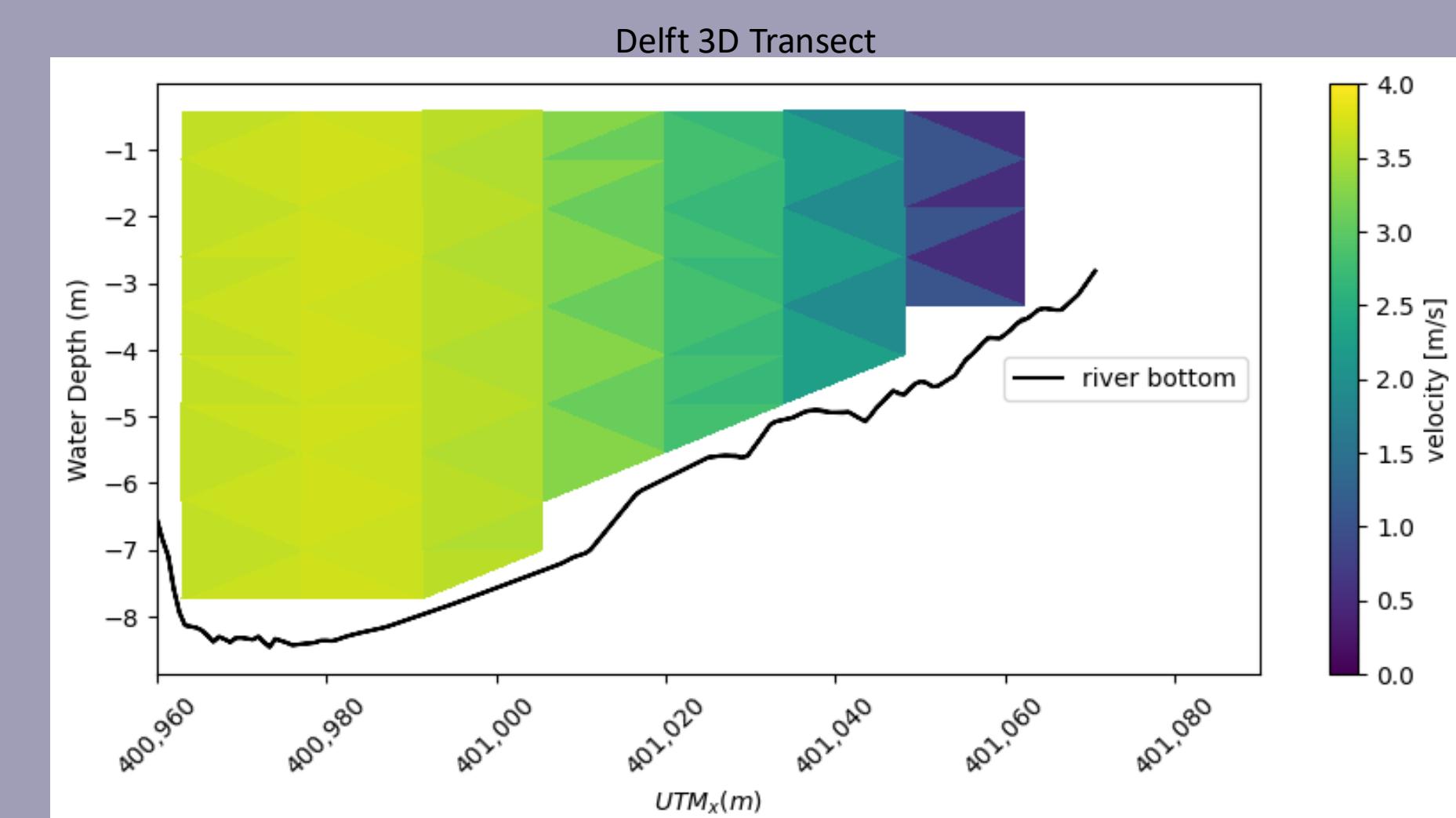
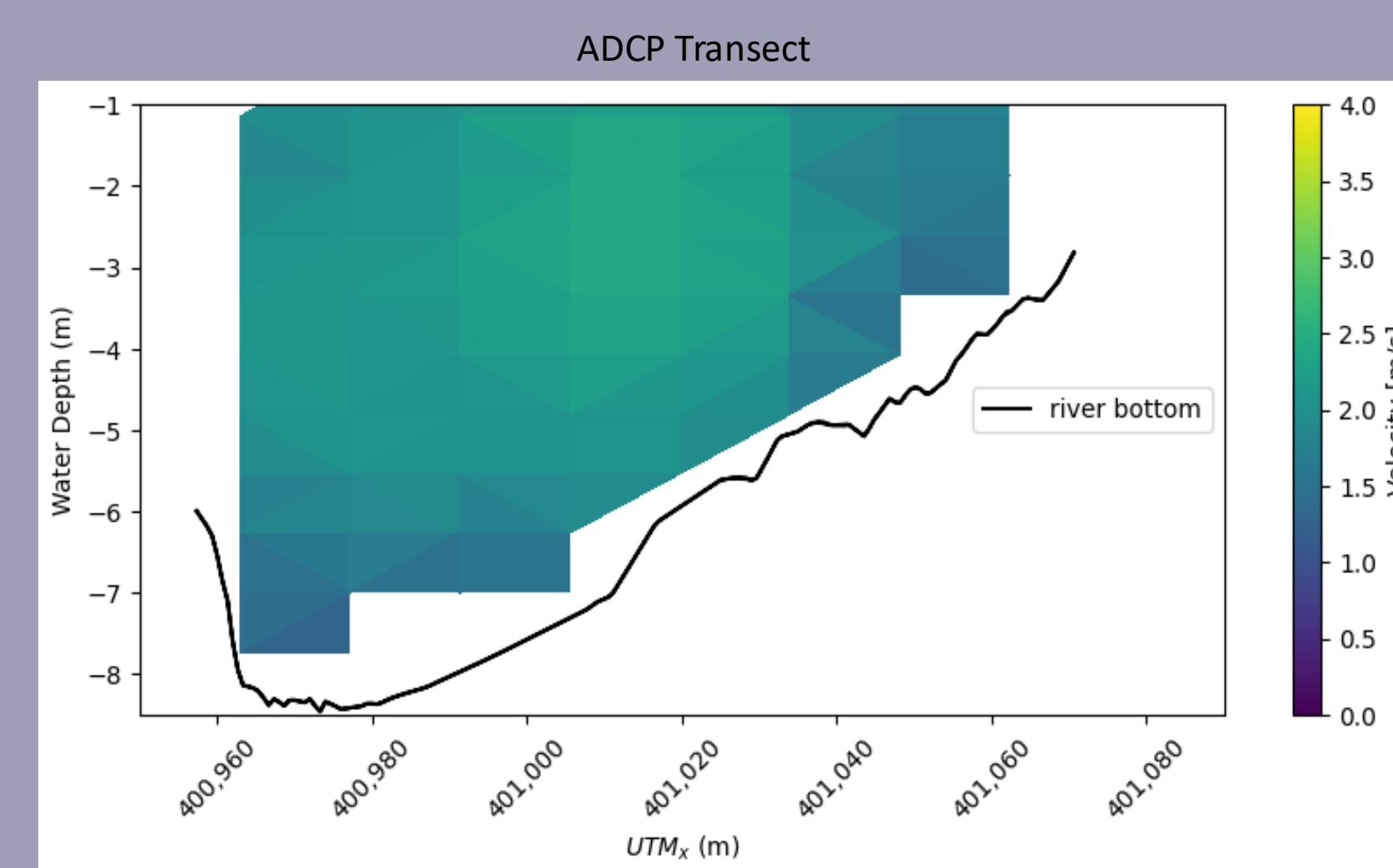


Delft 3D Results



The river was simulated for a steady state discharge using a data point from the USGS monitoring station at Tanana matching the day field transect data was collected using ADCP. On the left, preliminary results show an arial view of the velocity magnitude returned by the Delft3D simulation. High velocities at the exit show issues with the current modeling that require additional research to correct.

Once the simulation lacks noticeable issues near the boundary conditions, minor tuning of the simulation will occur to match the transect at the Tanana River Test site between the collected field data (below left) and the simulated river (below right). With this data matching future research will investigate the impacts of CECs on the river at multiple discharge levels.



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