Remote sensed data and hydraulic modelling

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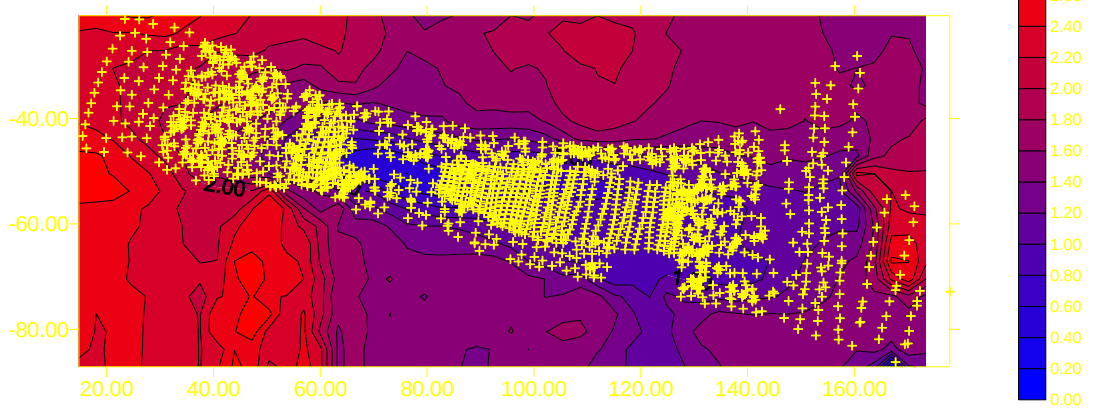
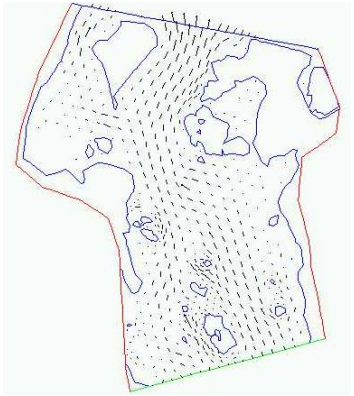
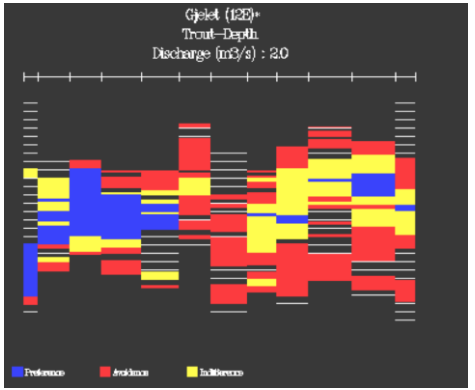
Modelling for environmental impact assessment.







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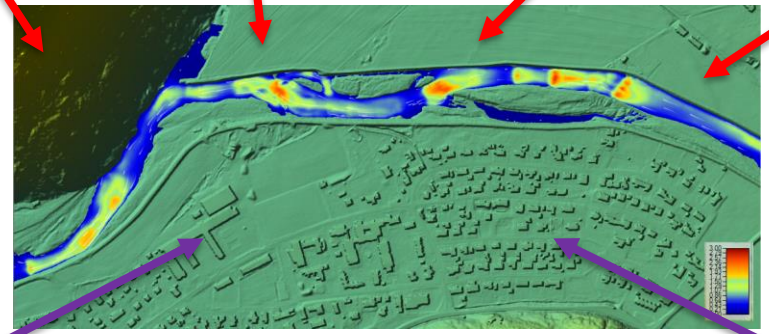
Using data from remote sensing

Green Lidar

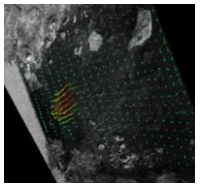
Red Lidar

Drone geometry

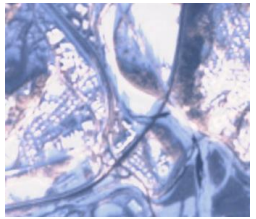
Terrestrial laser



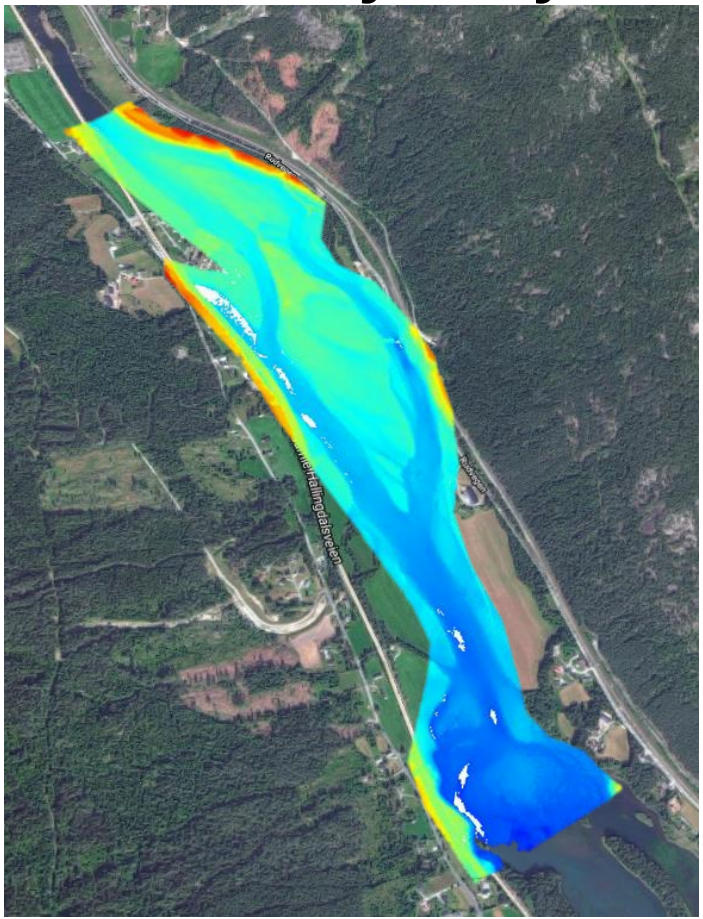
Drone derived data

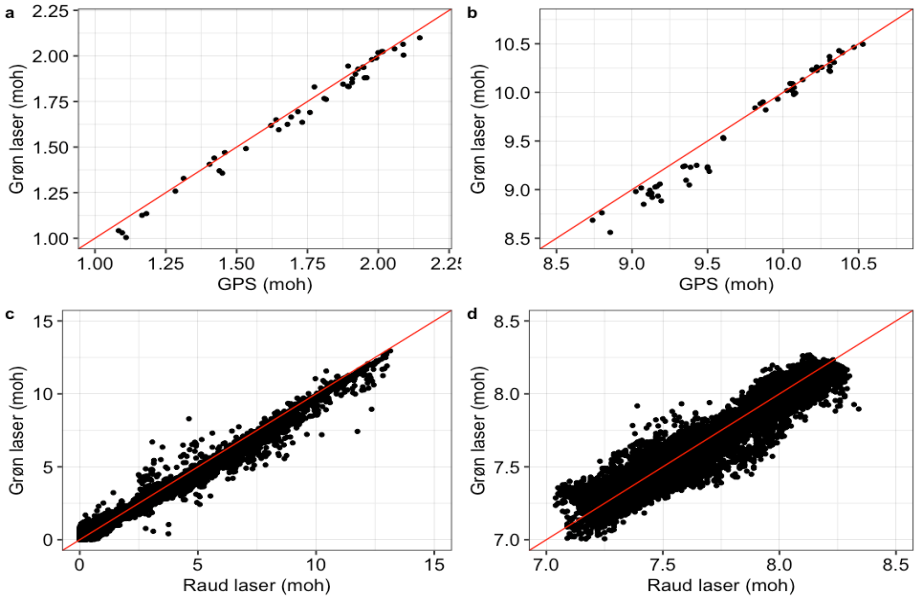


Satellite information



LiDAR Bathymetry





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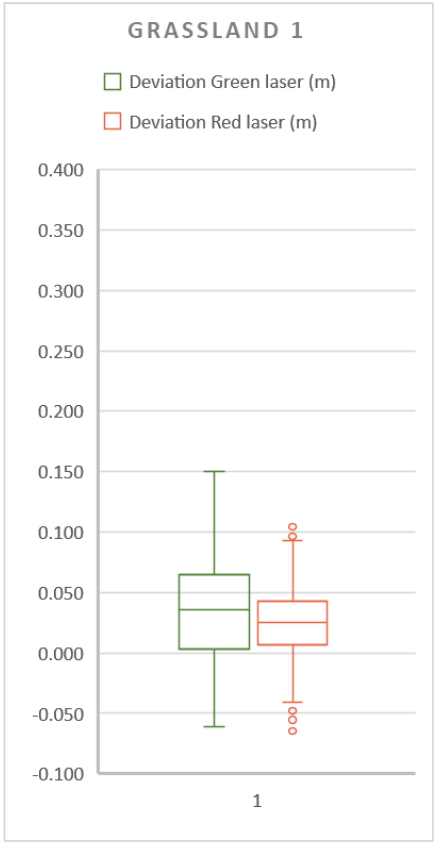
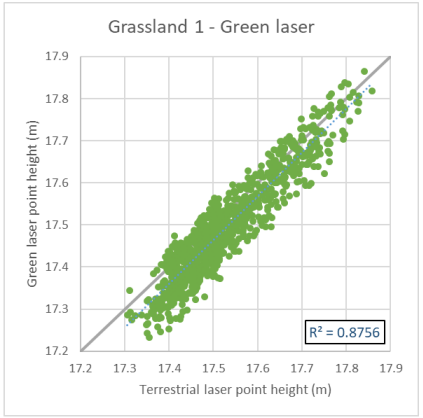
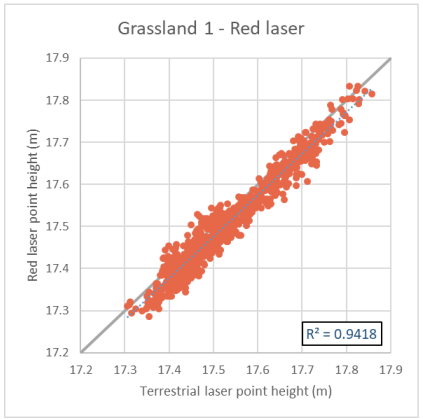
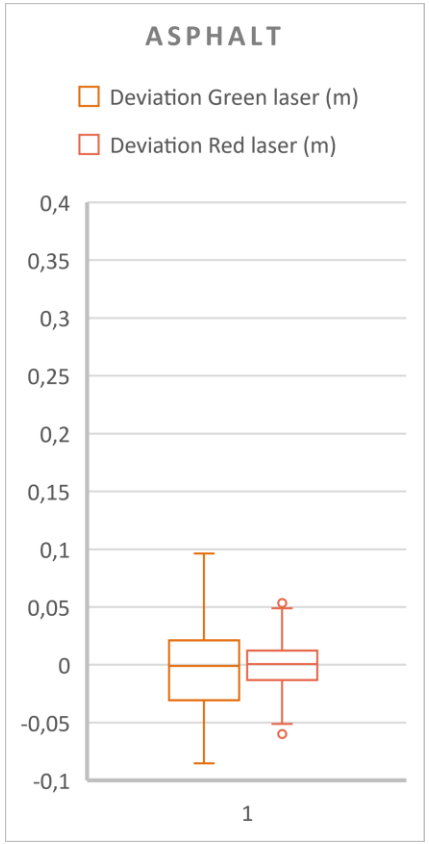
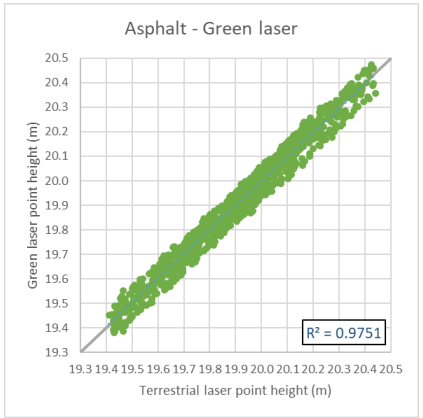
Comparisons

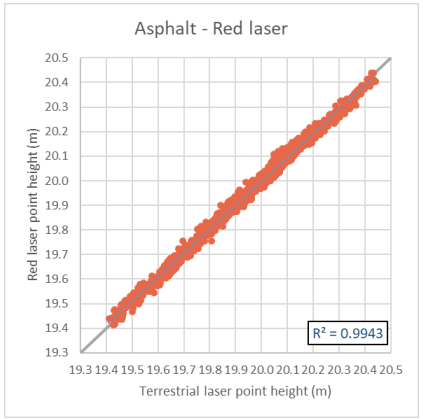




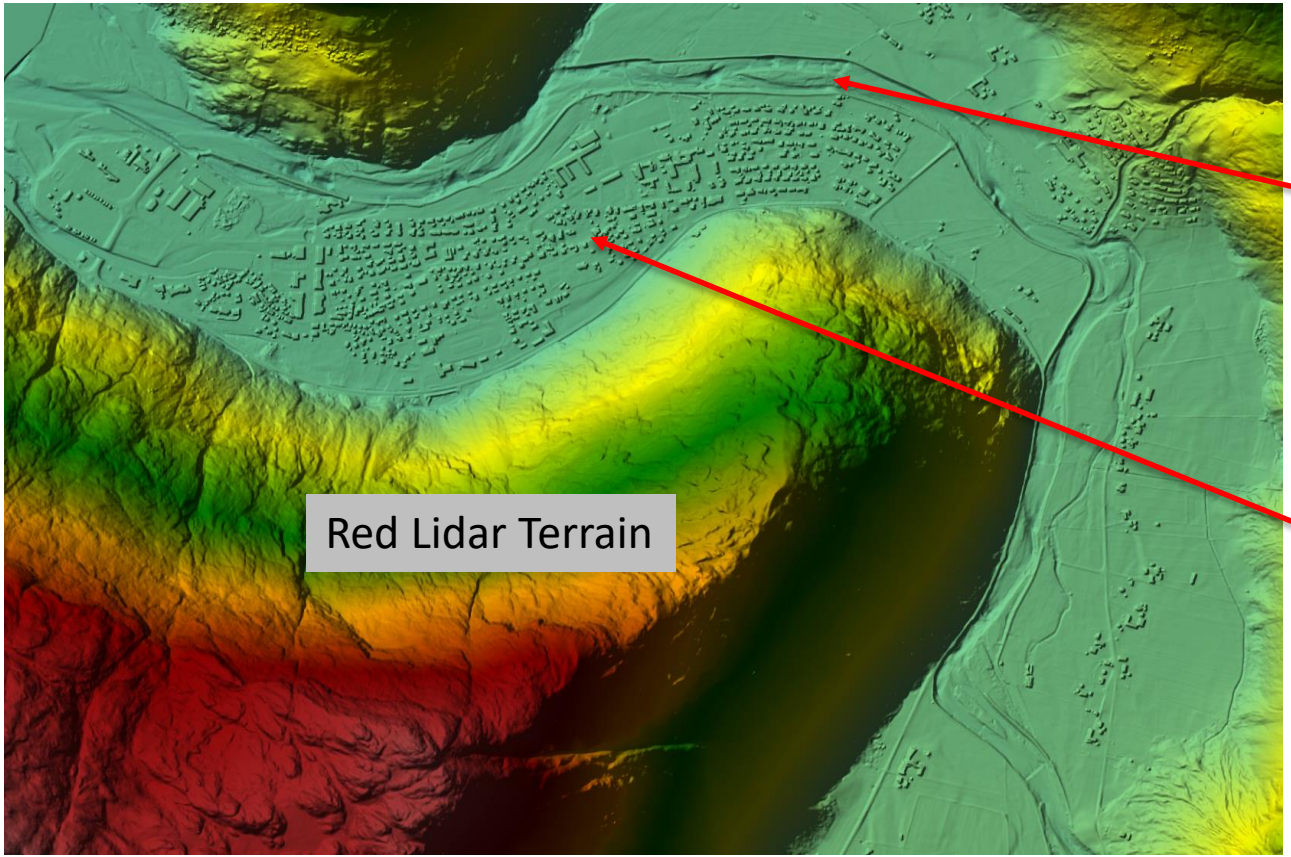








Prepared terrain model

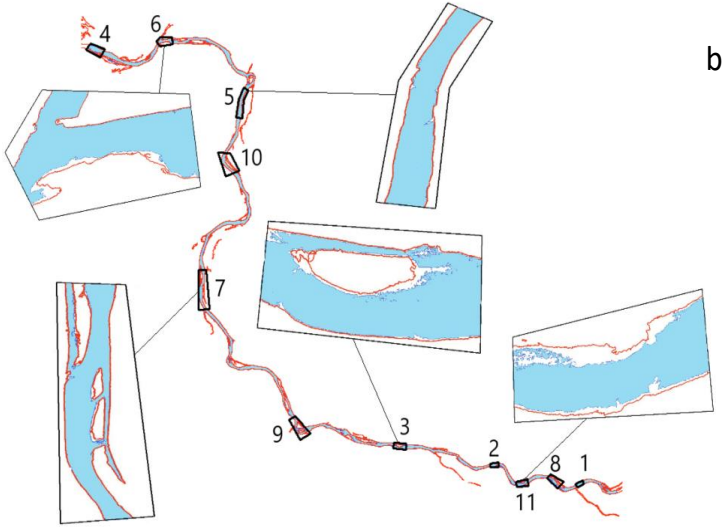


Green Lidar
river bathyemtry

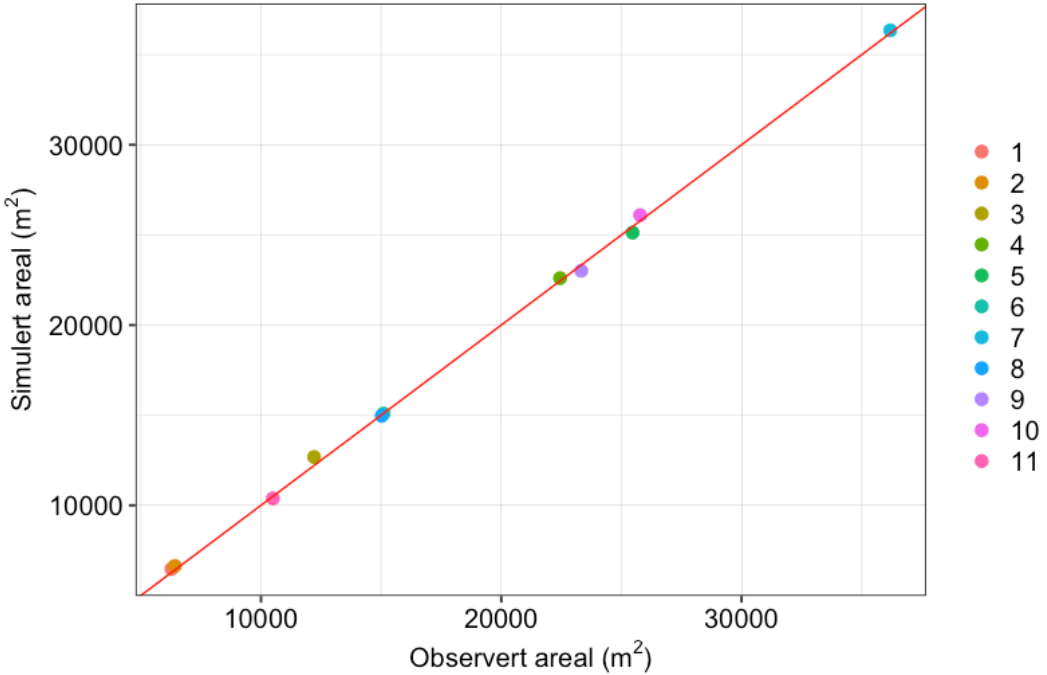
Buildings from
GIS database

Model calibration and verification

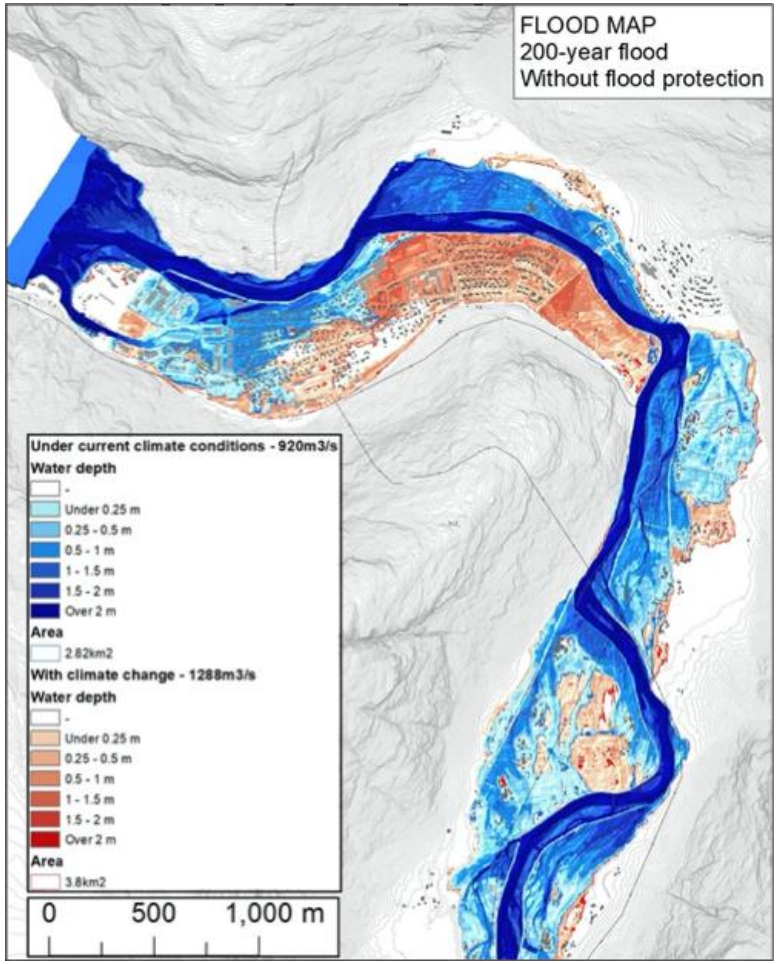
a

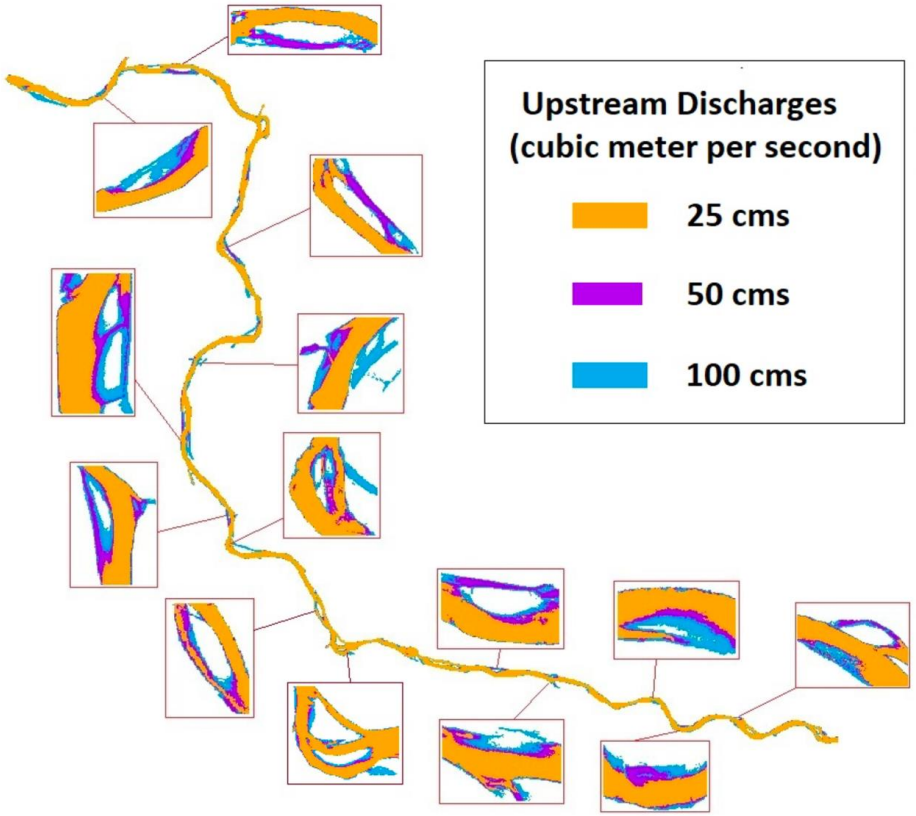


b



Blue – simulated, Red – observed
Uncalibrated model





Wetting – drying computations

Seguin Garcia, 2019

Limpens, 2019

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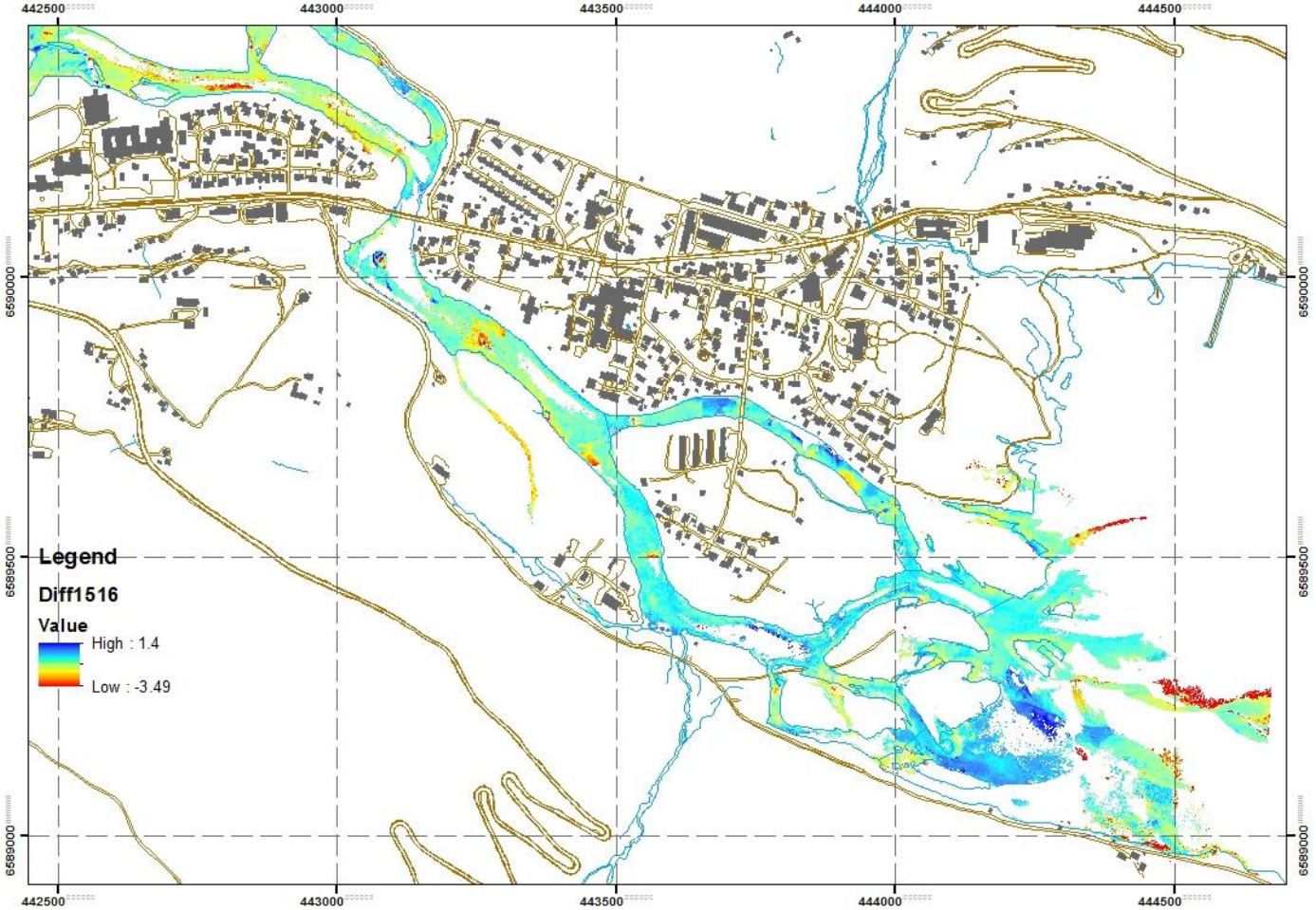
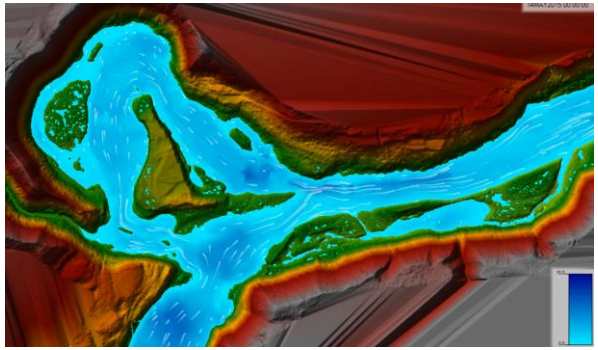


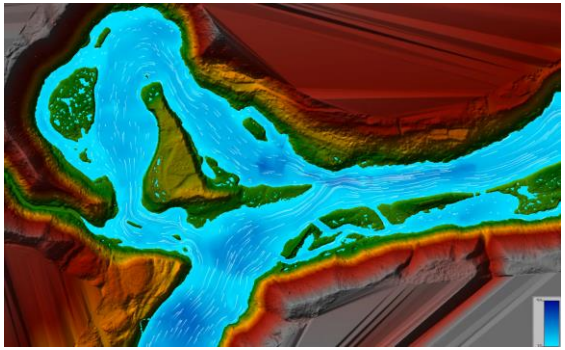
Green LiDAR 2016 – Green LiDAR 2015

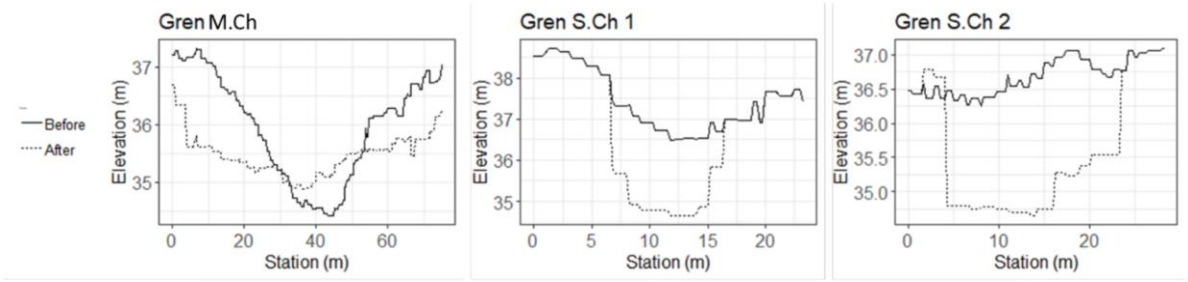
Erosion and deposition

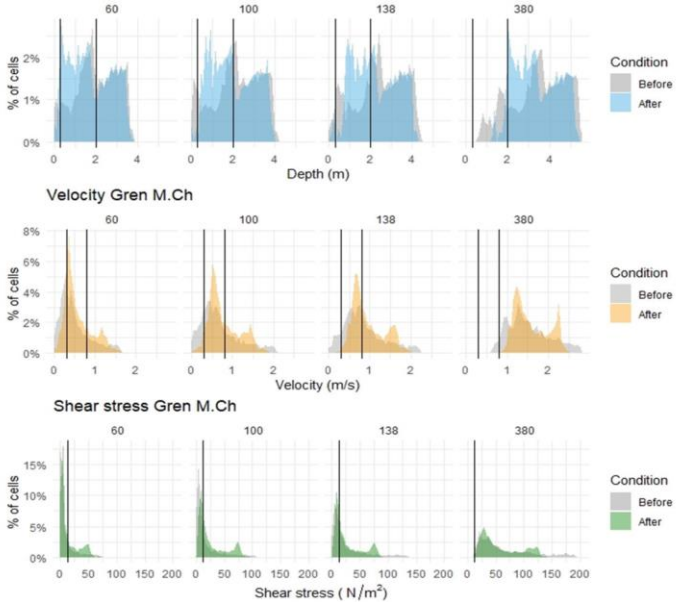
100-year flood between measurements

River modifications

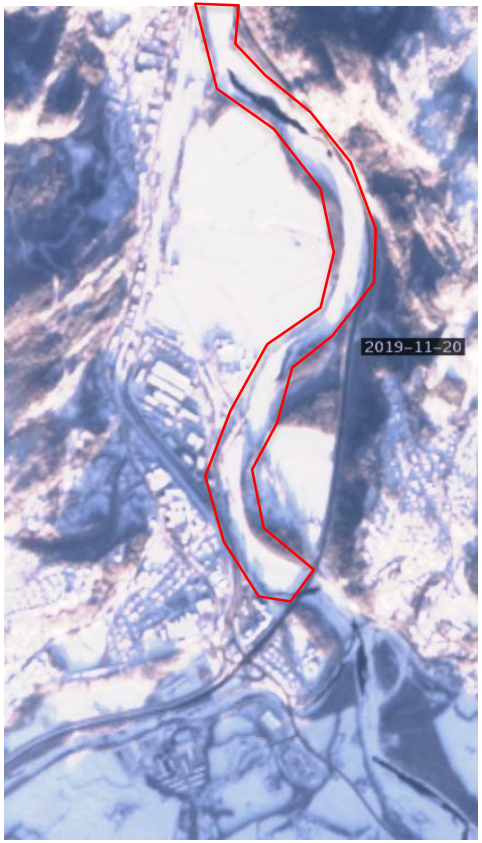


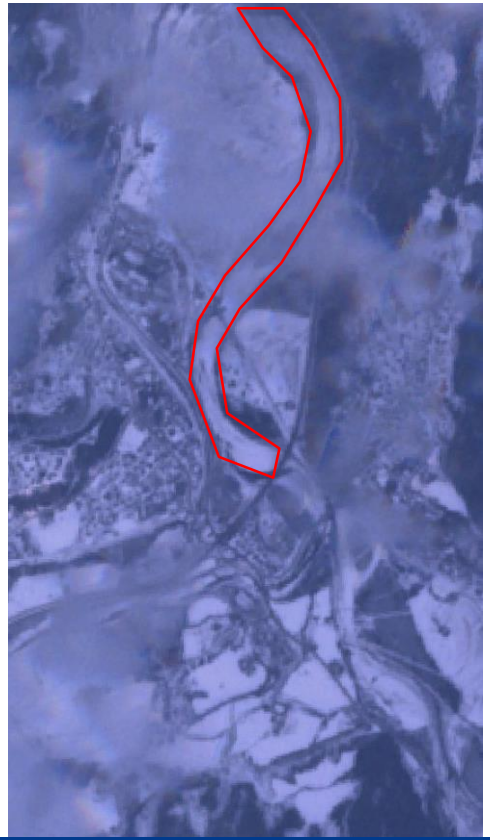


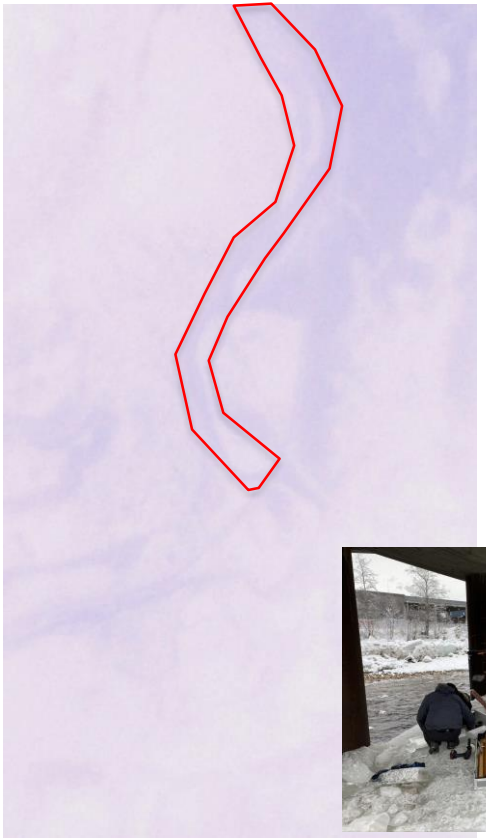




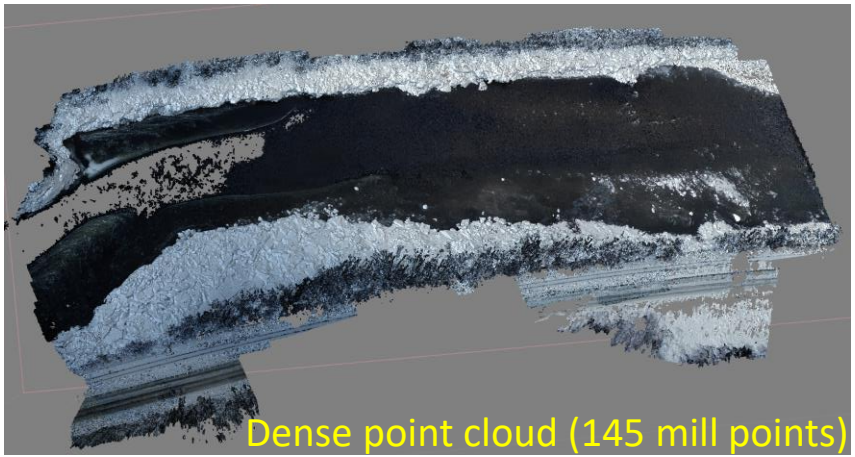
River ice break-up



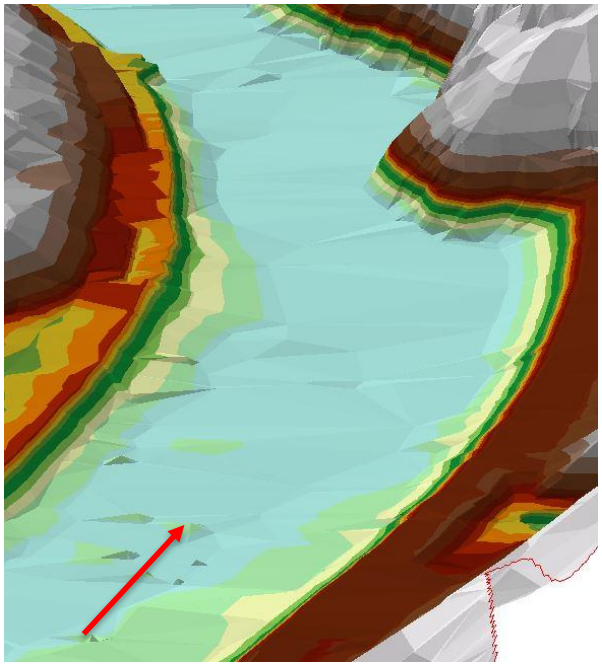


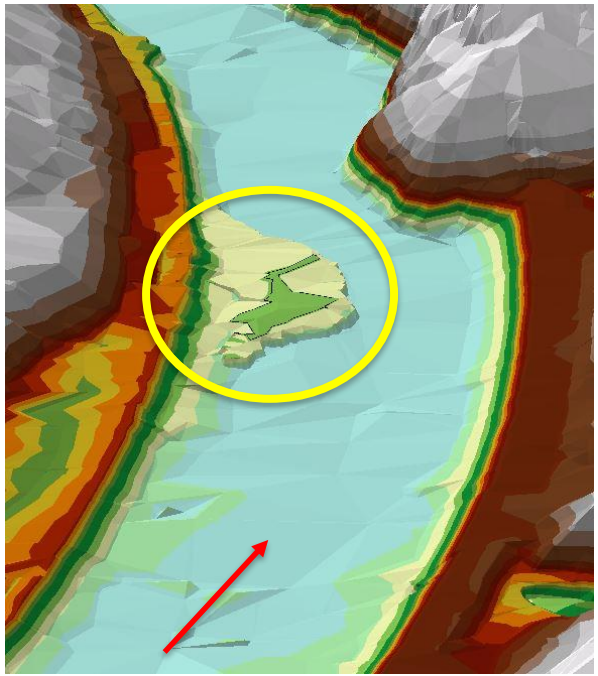


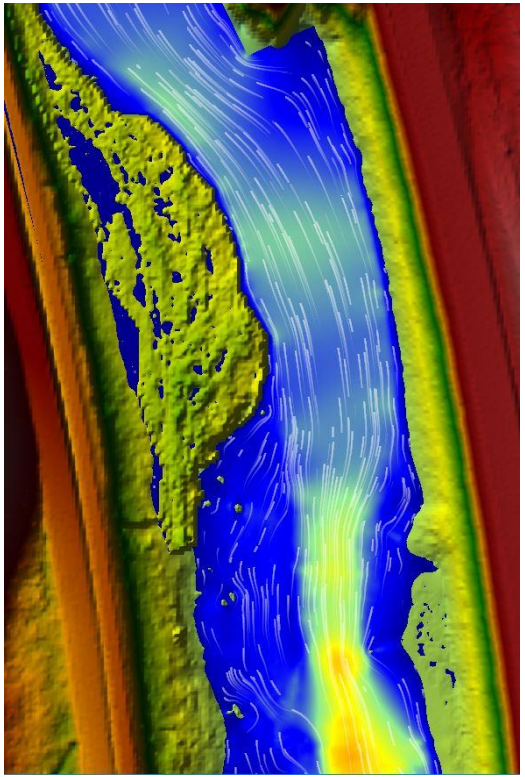
Mapping ice for modelling



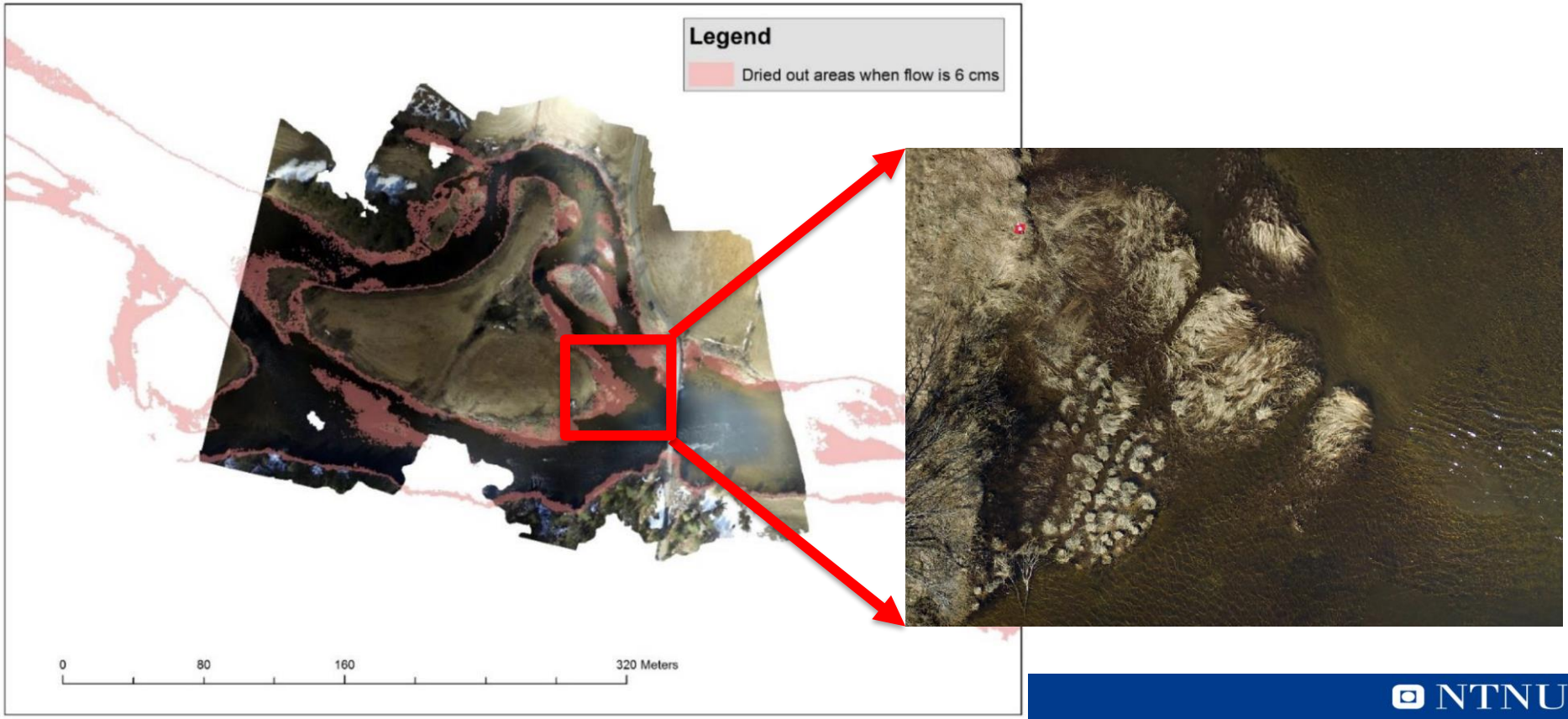
Integrate LiDAR and Drone/SfM geometry







Combine drone data with model results




Thank you!