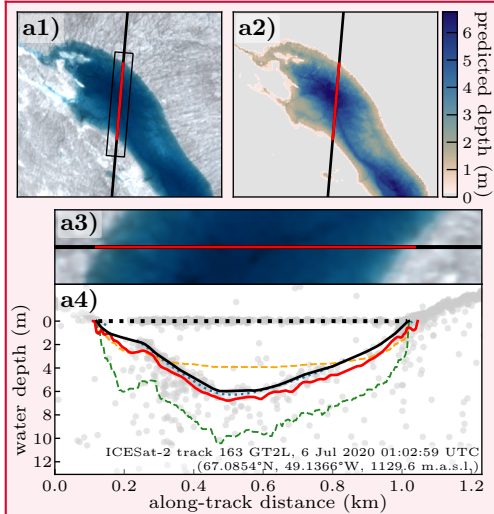
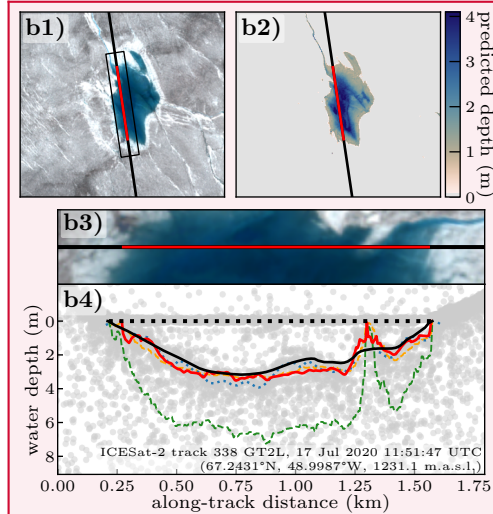


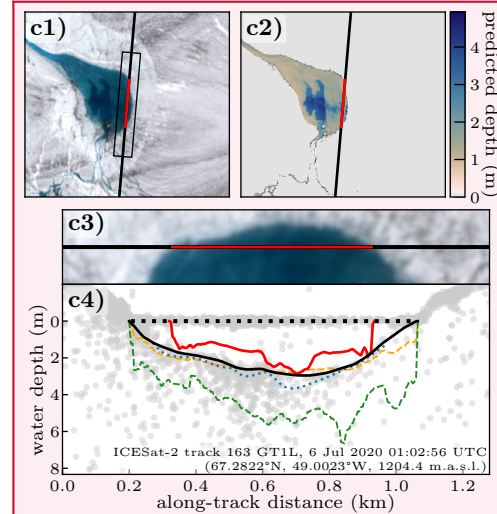
Greenland lake 1



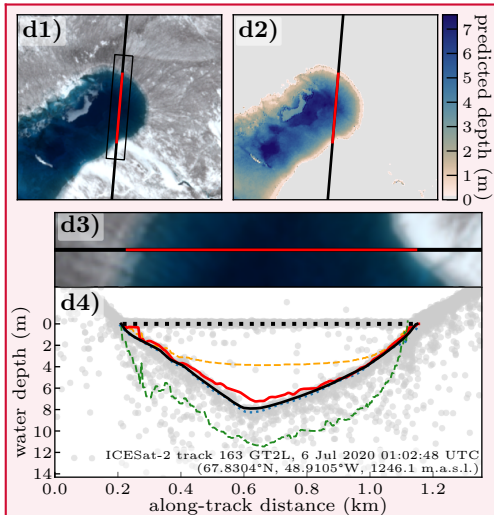
Greenland lake 2



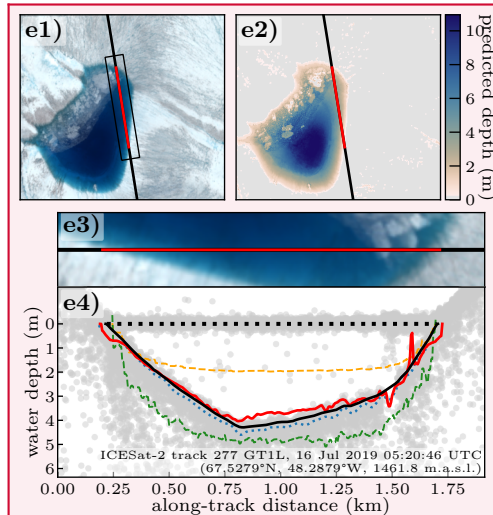
Greenland lake 3



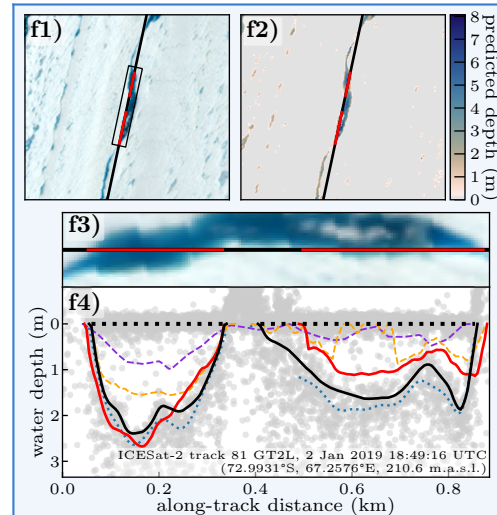
Greenland lake 4



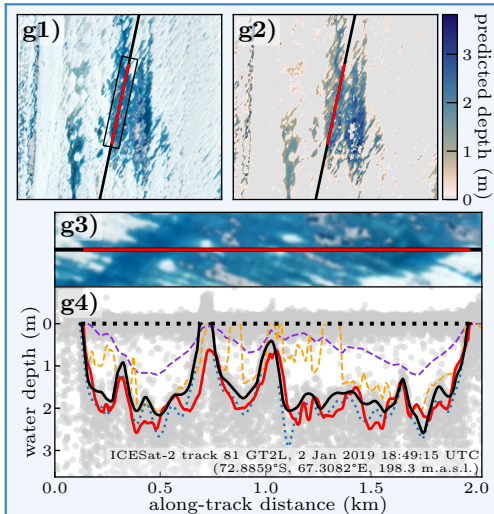
Greenland lake 5



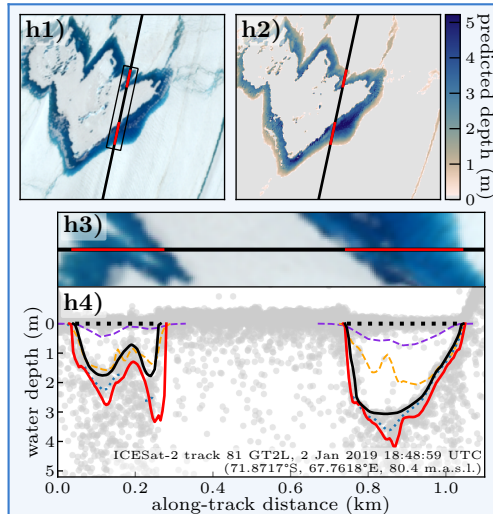
Antarctic lake 1



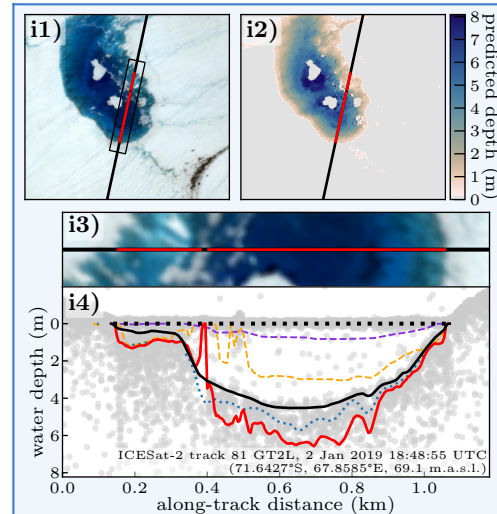
Antarctic lake 2



Antarctic lake 3



Antarctic lake 4



a-e): Greenland lakes (Melling et al., 2024)

MAE: 0.34 m, r : 0.97, bias: 0.02 m (−1%)

RTE: Sentinel-2 red band

MAE: 0.94 m, r : 0.77, bias: 0.59 m (−20%)

RTE: Sentinel-2 green band

MAE: 2.53 m, r : 0.87, bias: −2.49 m (+84%)

all panels

••• ATL03 photons

••• lake water surface

— manual ICESat-2 depth

— random forest predicted depth

••• ICESat-2 SuRRF estimate

f-i): Antarctic lakes (Fricker et al., 2021)

MAE: 0.44 m, r : 0.94, bias: −0.28 m (+20%)

RTE: Sentinel-2 red band

MAE: 0.55 m, r : 0.82, bias: 0.48 m (−34%)

RTE: Landsat 8 red/pan bands

MAE: 1.04 m, r : 0.70, bias: 1.03 m (−73%)