

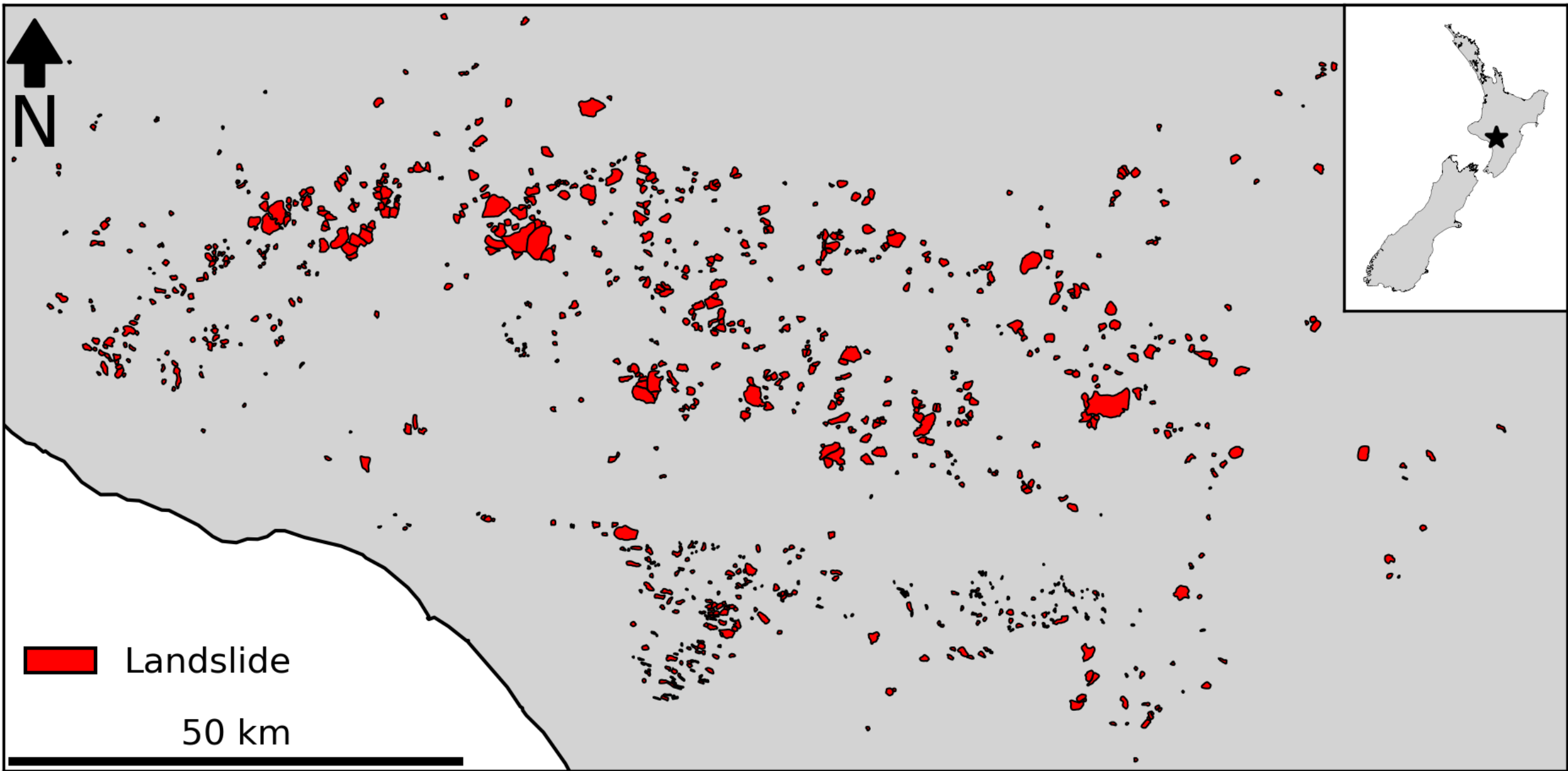


Operationalizing InSAR and Pixel Offset Time Series Methodologies for Landslide Monitoring



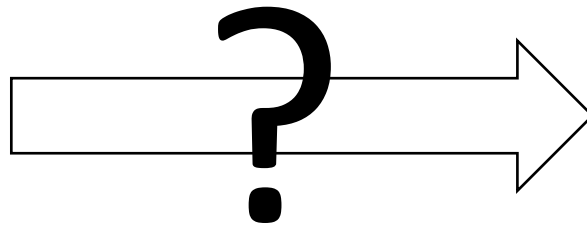
AGU Fall Meeting Dec 16th, 2021





From this...

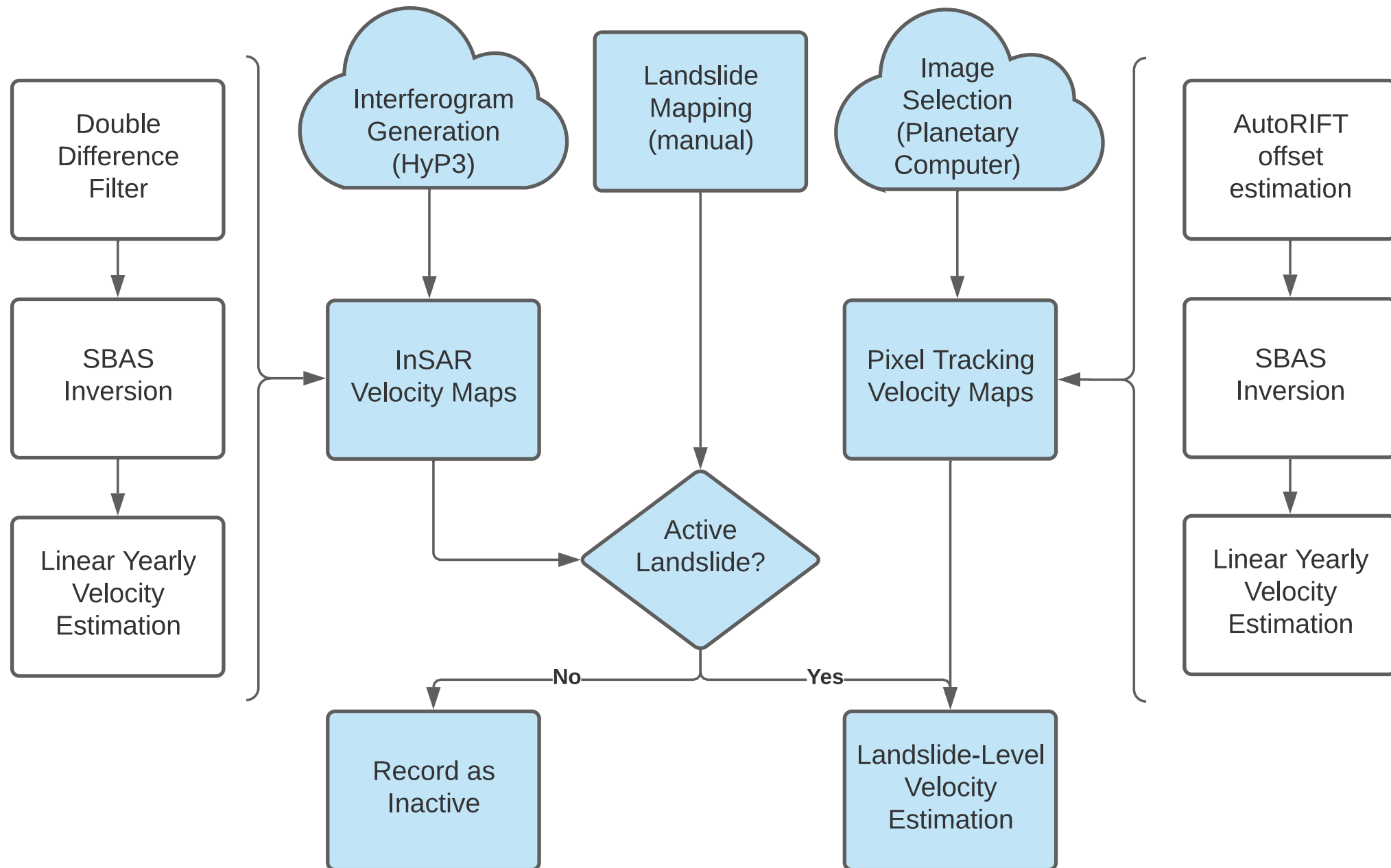
There are 935
mapped landslides
in this area



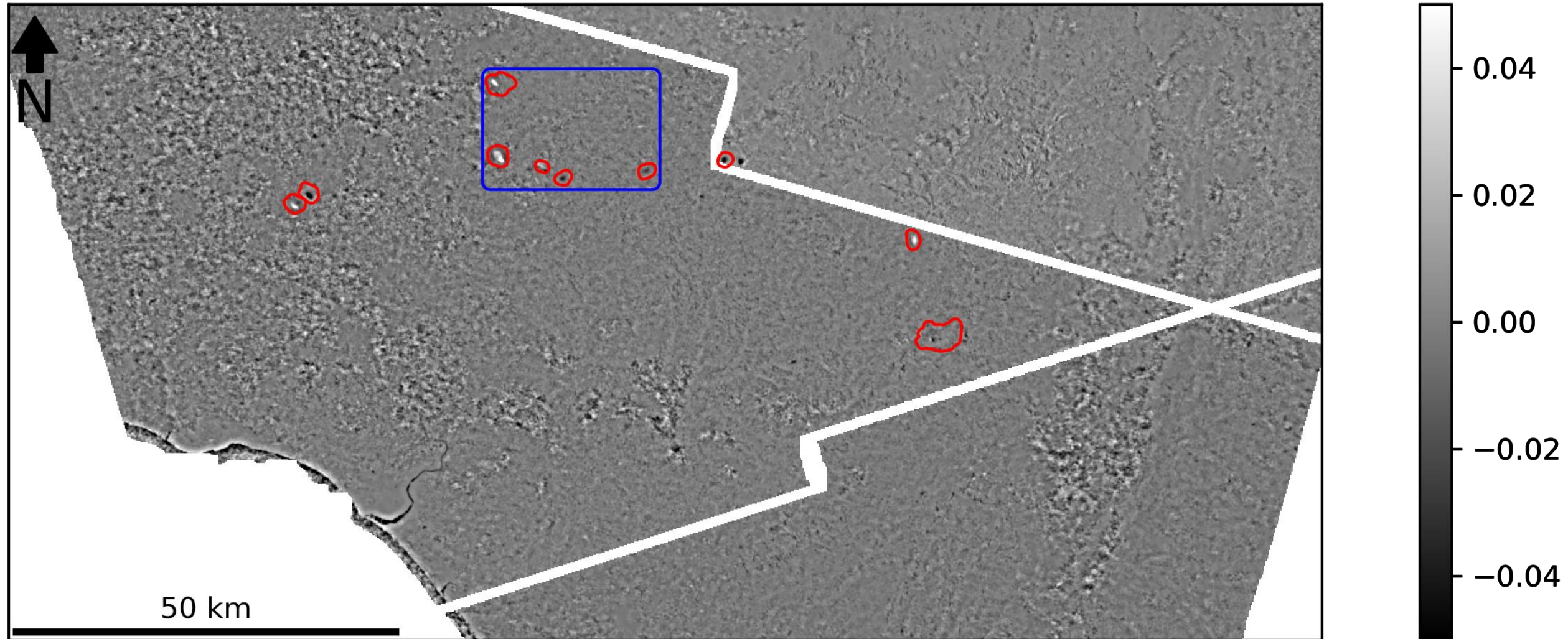
To this!

There are 935 mapped
landslides in this area, 50
are active, and 5 are
moving faster than 1 m/yr

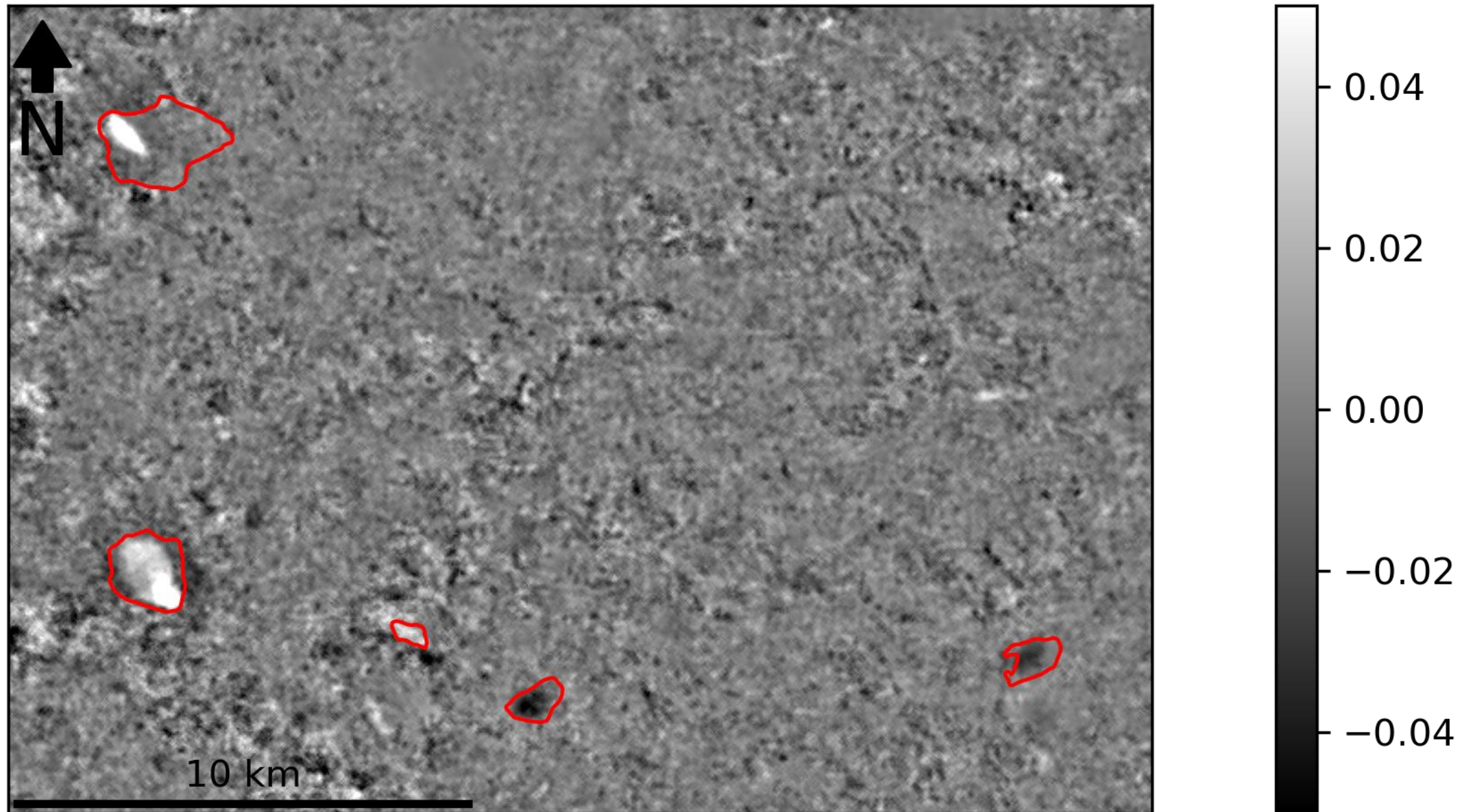




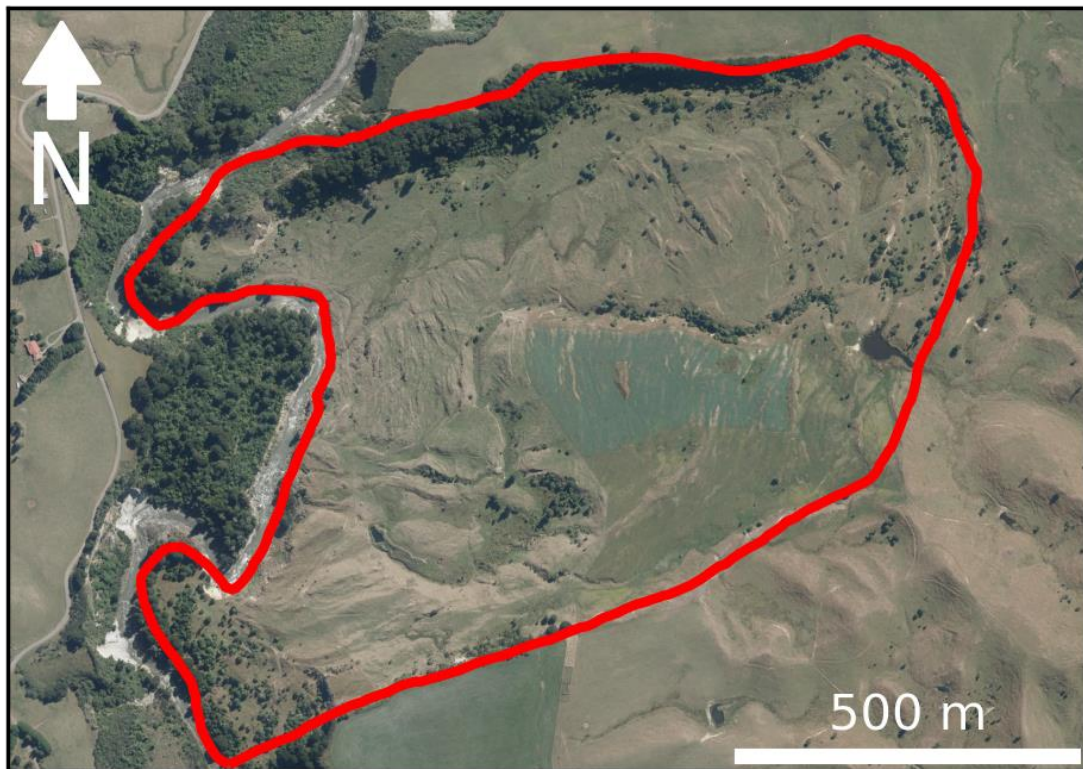
East to West 2019 Movement Rate (m/yr)



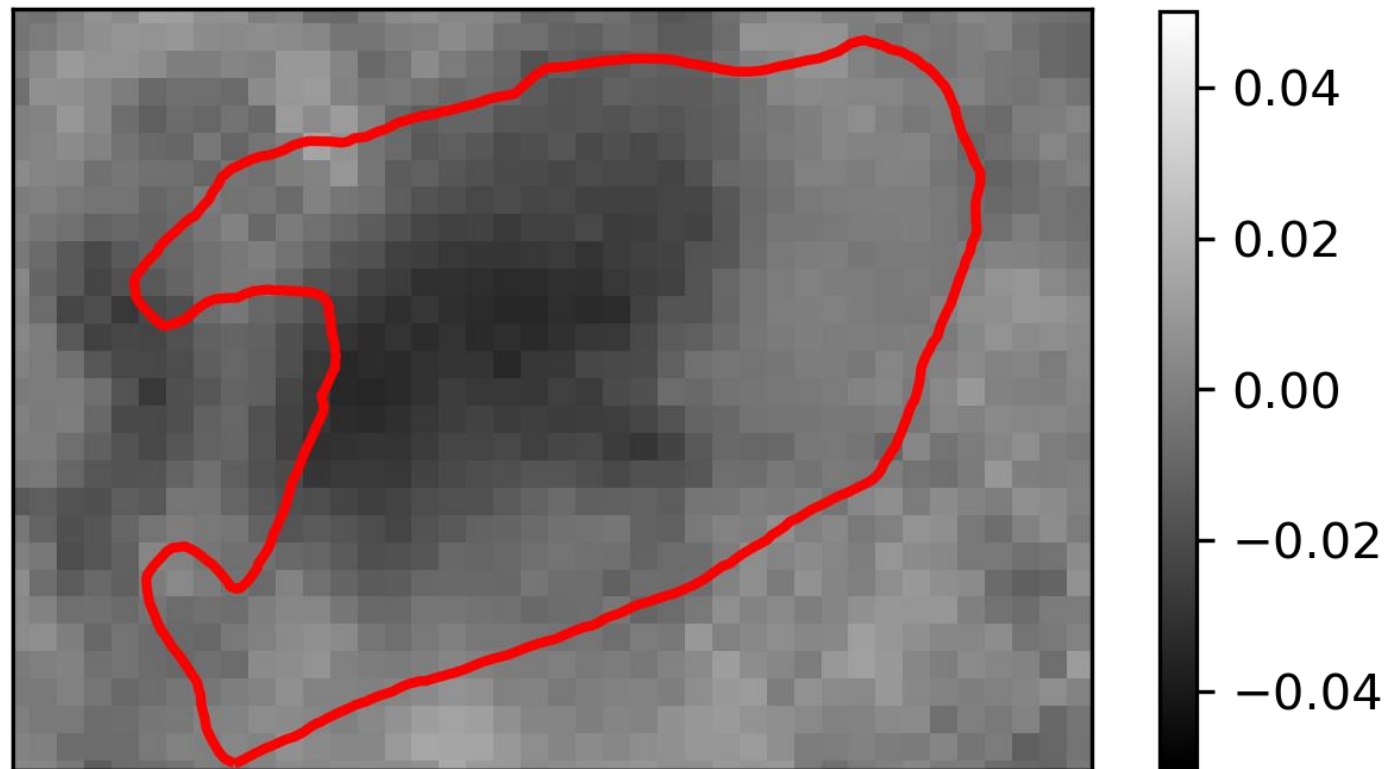
East to West 2019 Movement Rate (m/yr)



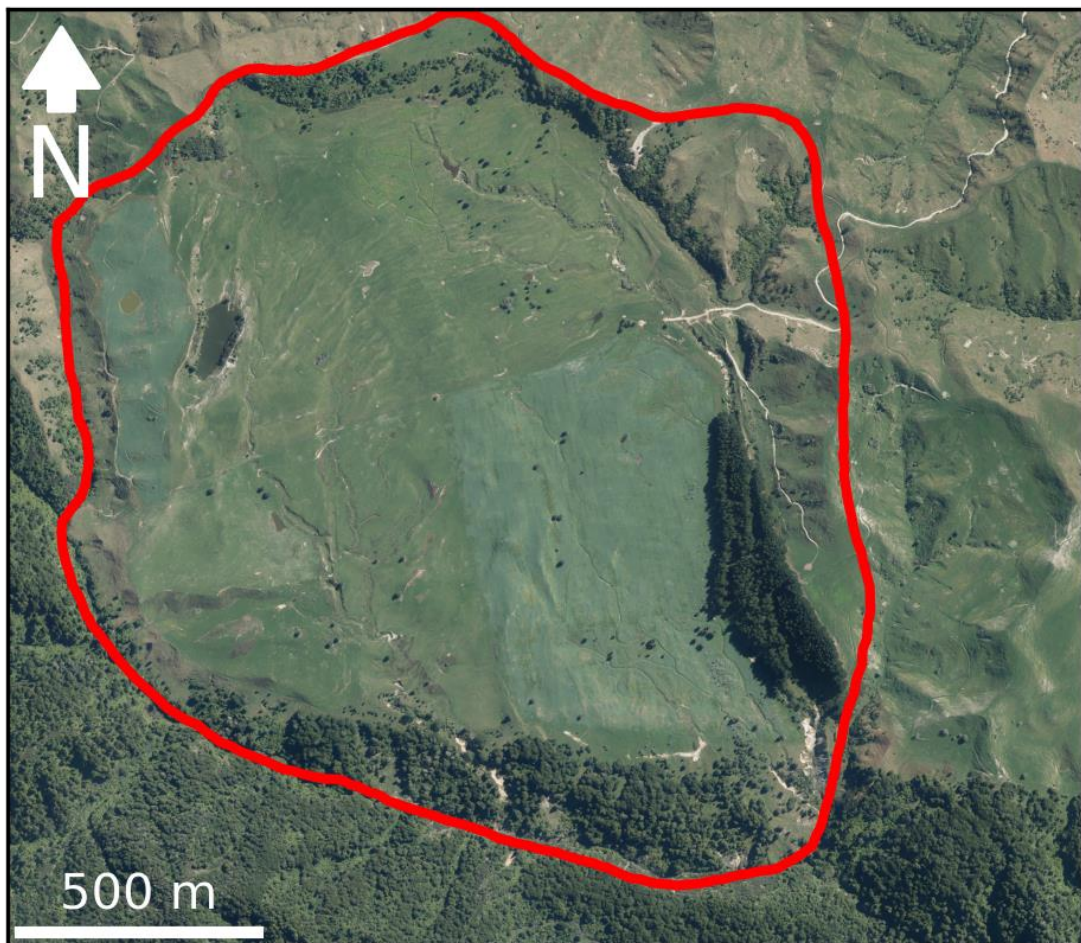
Aerial Imagery



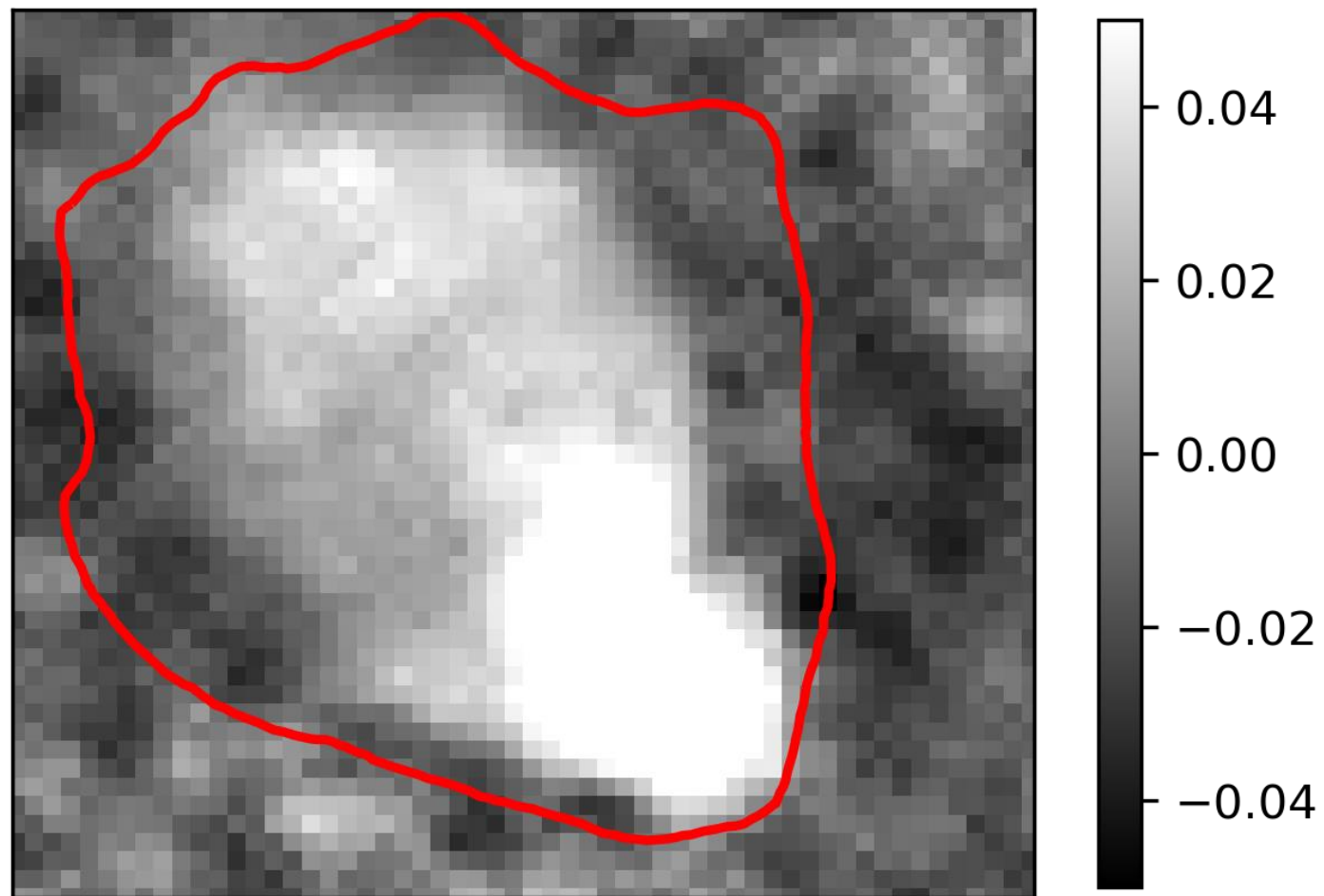
EW 2019 Movement Rate (m/yr)



Aerial Imagery

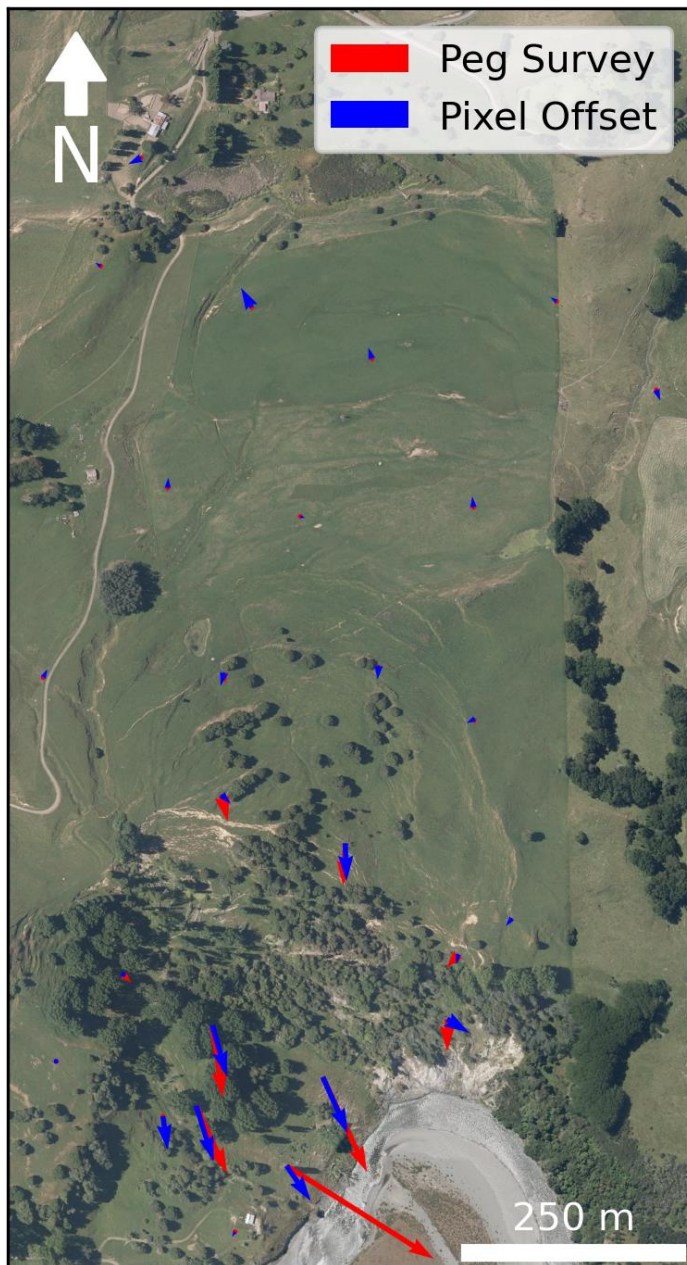


EW 2019 Movement Rate (m/yr)

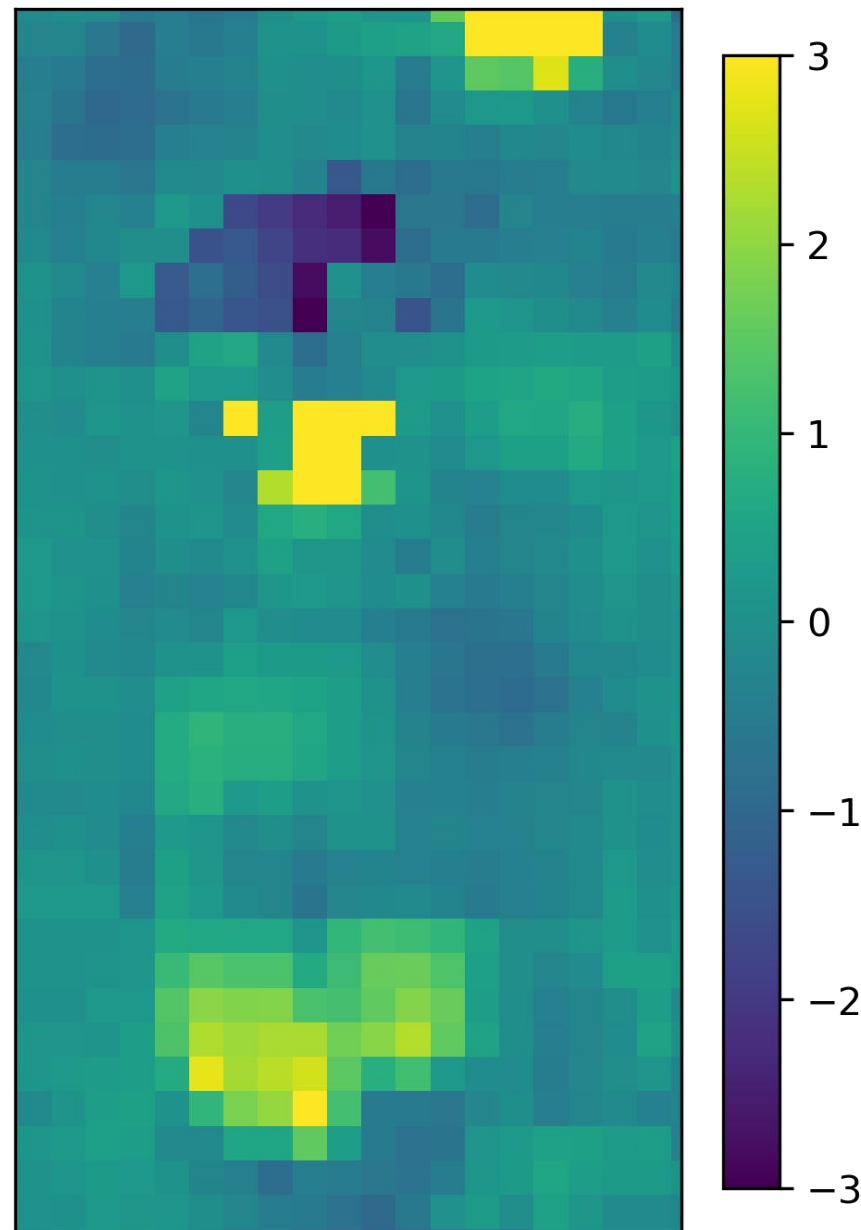




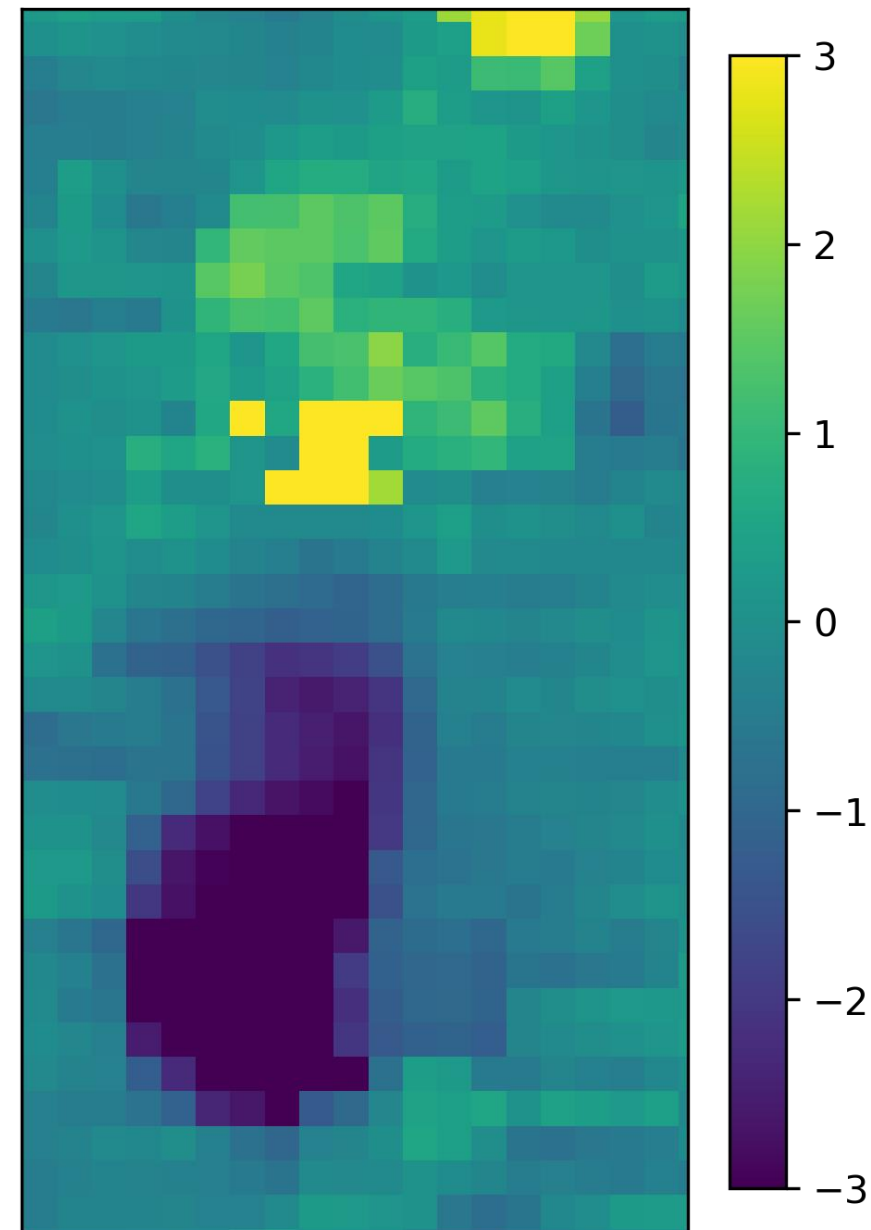
Peg Survey Comparison



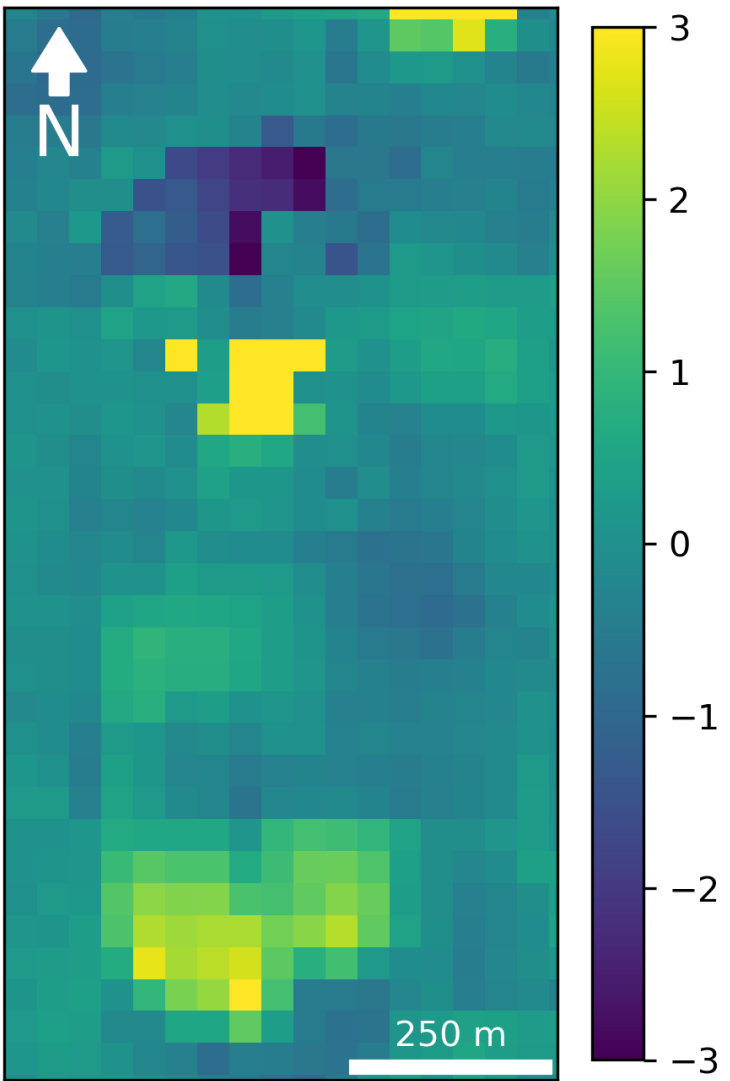
EW Annual Pixel Velocity (m/yr)



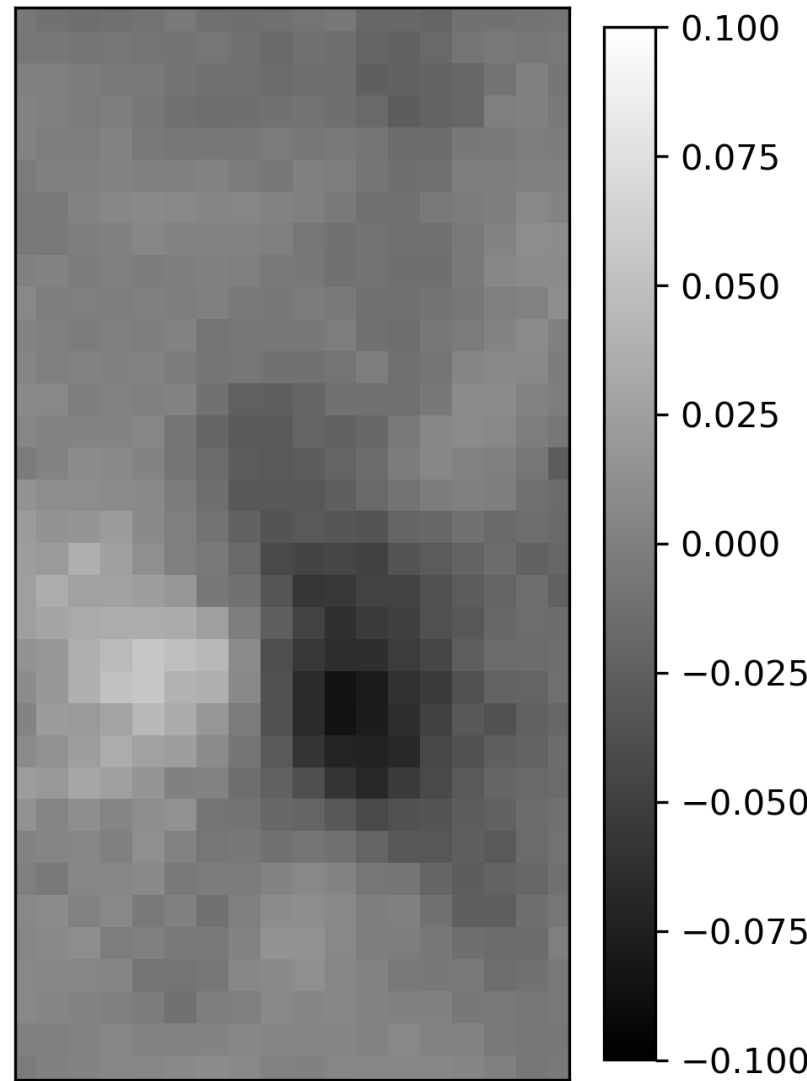
NS Annual Pixel Velocity (m/yr)



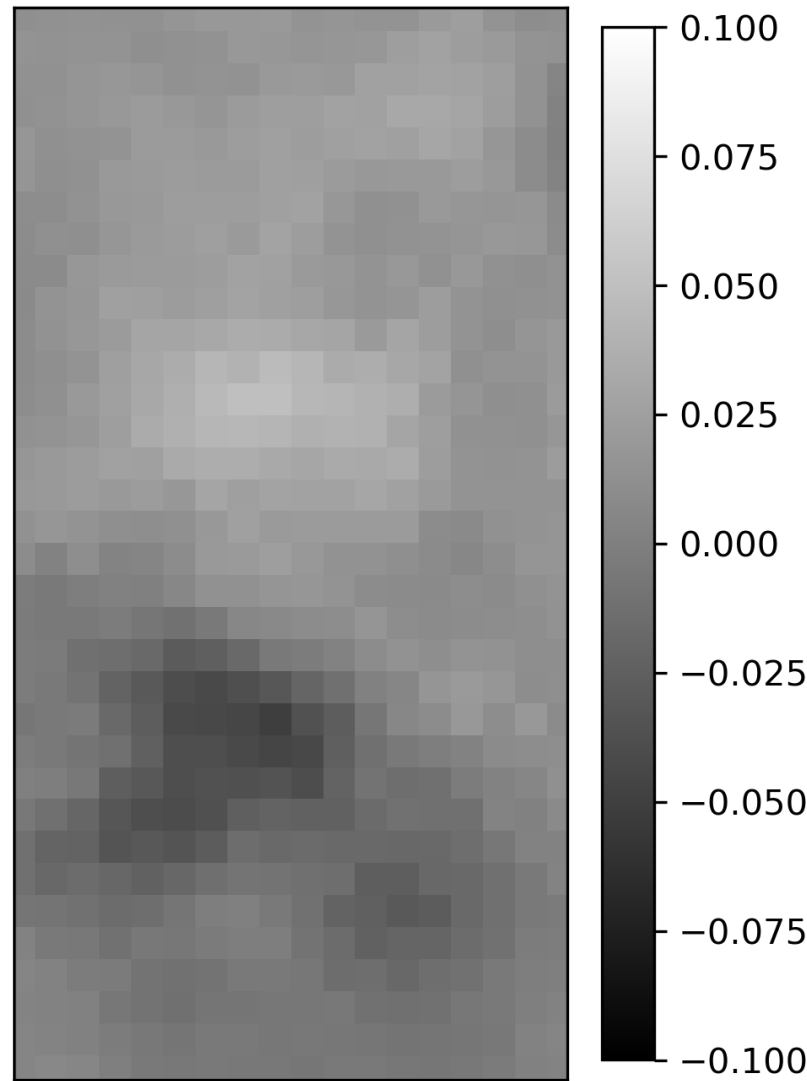
EW Annual Pixel Velocity (m/yr)



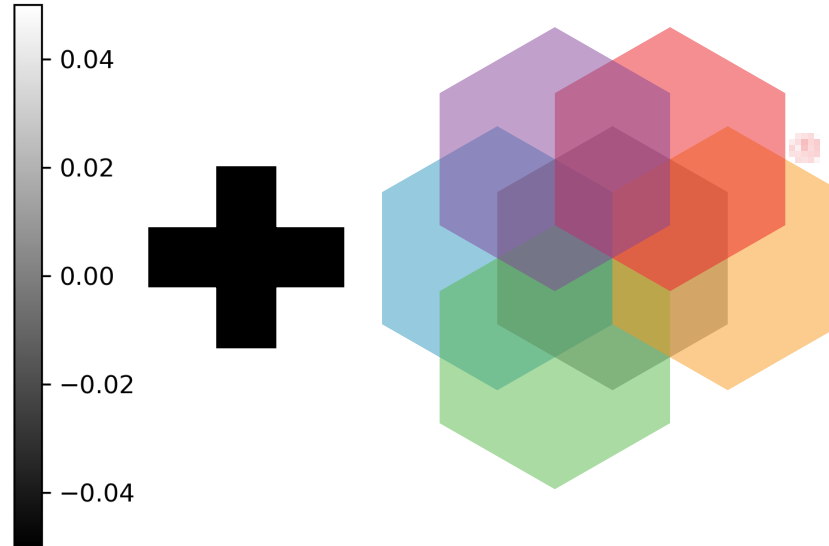
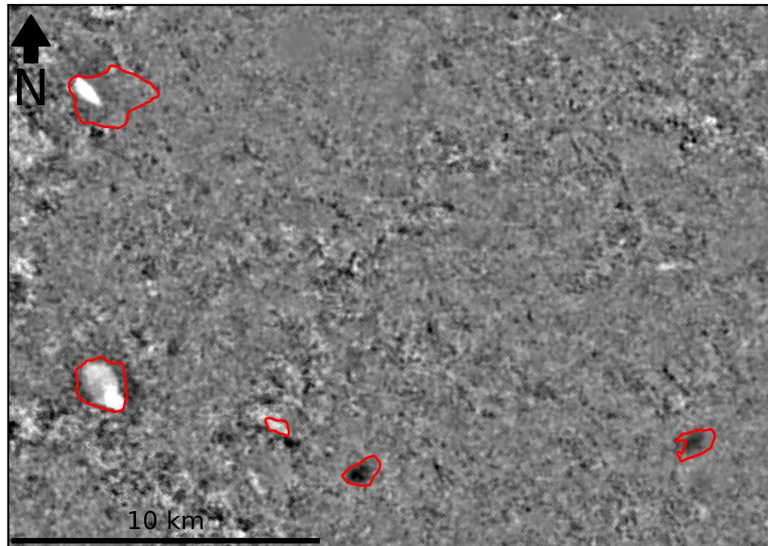
EW 2019 InSAR Velocity (m/yr)



Vertical 2019 InSAR Velocity (m/yr)



East to West 2019 Movement Rate (m/yr)



Descartes Labs



Questions:

Email: f.williams1@massey.ac.nz

GitHub: forrestfwilliams

Twitter: @rs_forrest



Workflows:

InSAR: github.com/forrestfwilliams/hyp3_insar

Pixel Offset: github.com/forrestfwilliams/pixeloffset_mintpy

Data + Figures: github.com/forrestfwilliams/agu_2021



References:

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Hogenson, Kirk, et al. "Hybrid Pluggable Processing Pipeline (HyP3): A cloud-based infrastructure for generic processing of SAR data." *AGU Fall Meeting Abstracts*. Vol. 2016. 2016.

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