



Using EGMS in Iceland

Nordic cooperation on land cover and habitat mapping using earth observation
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Guðmundur Þór Valsson



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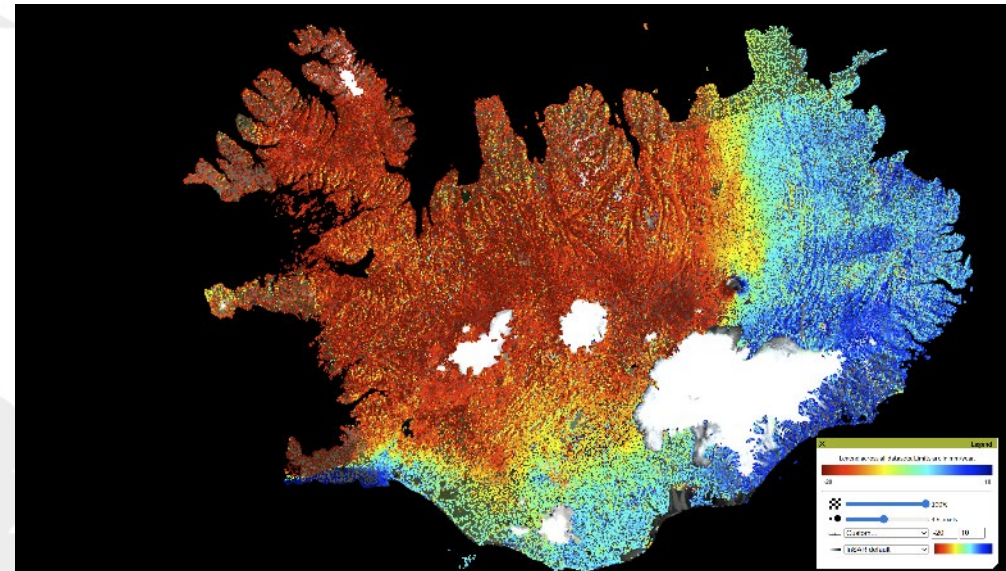
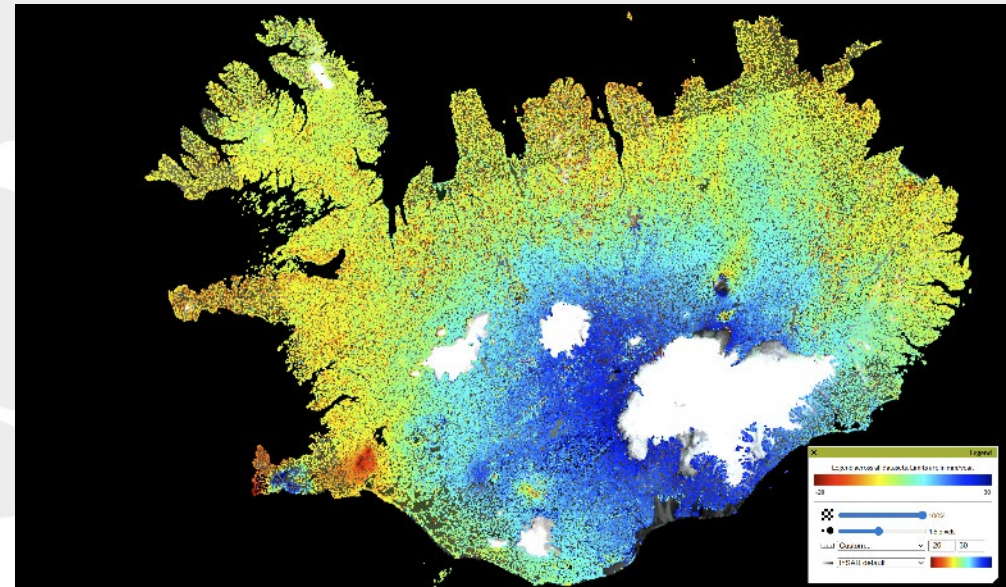
From regional screening to targeted follow-up measurements

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national geodetic systems and
positioning infrastructure
advisory role to authorities and
professionals
active tectonic and volcanic
environment
deformation is part of reference
maintenance

Role context

NSII maintains national geodetic systems and provides surveying advice in a country with active crustal motion.



EGMS Ortho Vertical and Horizontal deformation



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How we use EGMS

screening large areas

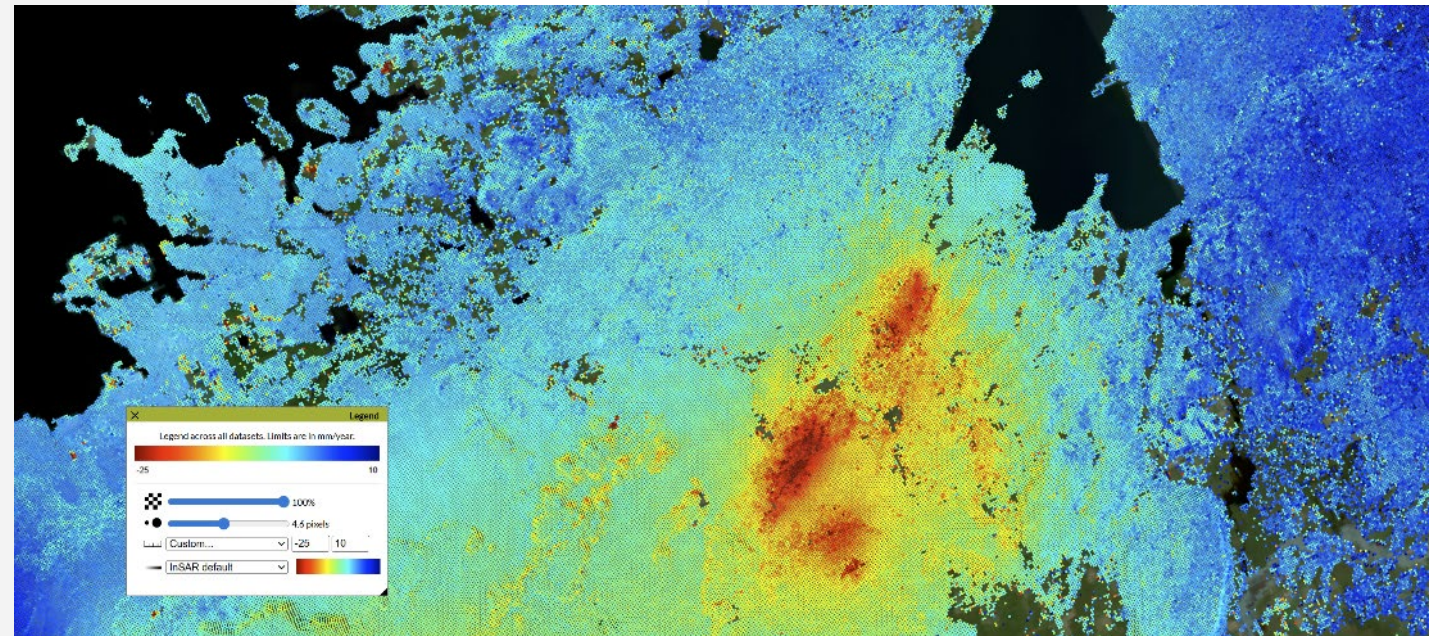
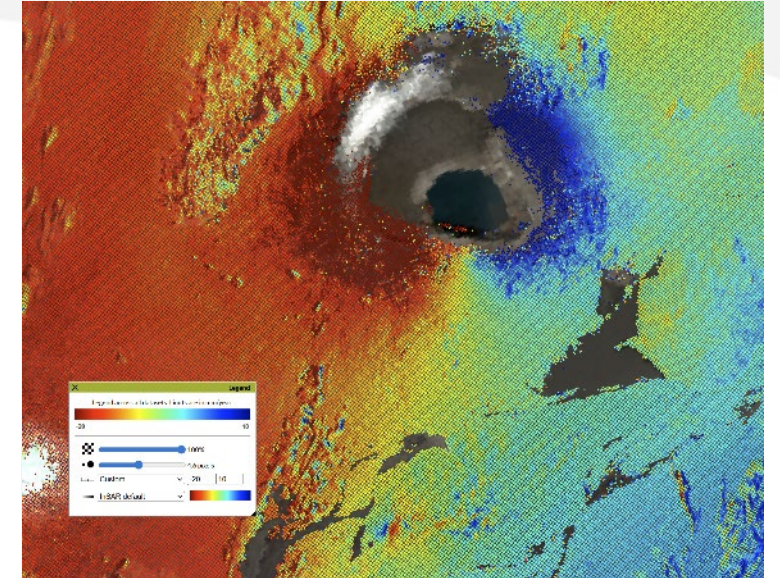
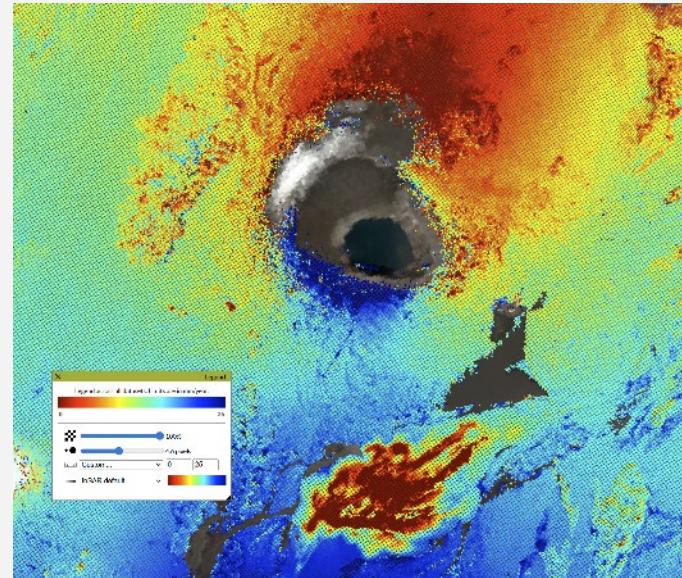
prioritising follow-up
measurements

mainly using Ortho products

supporting communication
across agencies

Main workflow

EGMS is used as the first screening layer, not as the final answer.



Ortho products provide an accessible first view of regional motion

EGMS, GNSS and levelling

EGMS: radar-visible surface motion

GNSS: bedrock monument motion

levelling: precise vertical change along lines

compare carefully, combine for interpretation

Comparison logic

These datasets are complementary, but not directly equivalent.



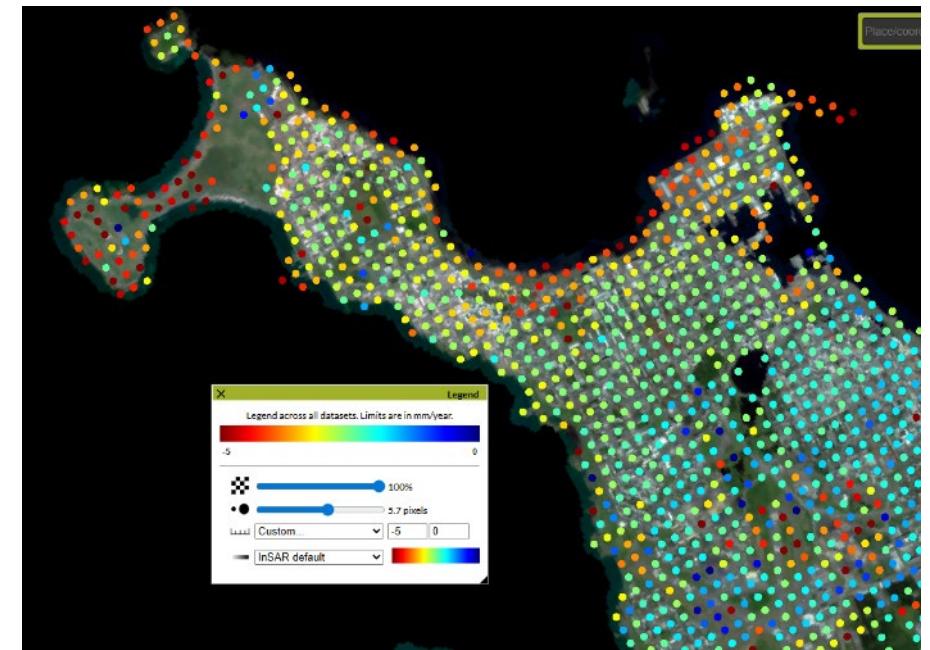
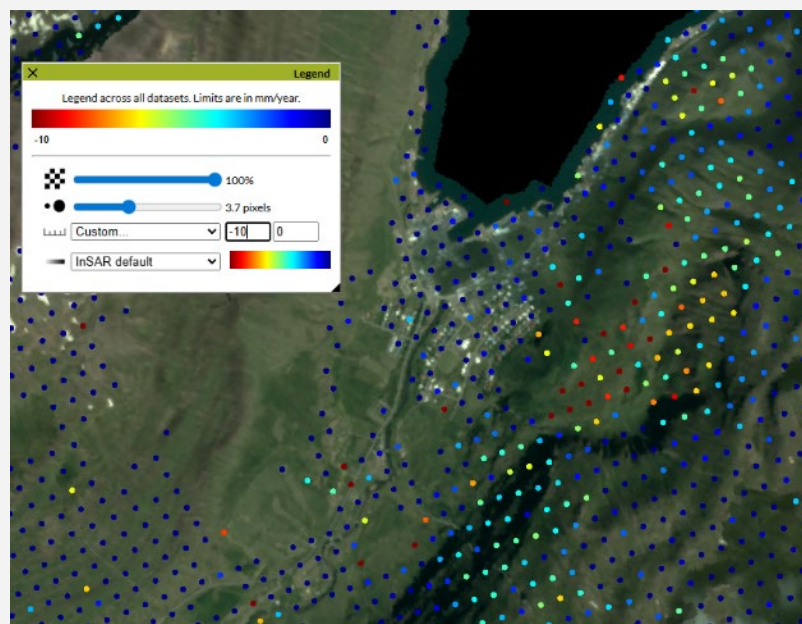
Operational value

landslide screening

low-lying coastal areas

harbour and flood-risk context

accessible EO layer for non-InSAR
users



EGMS helps identify where deformation may matter operationally

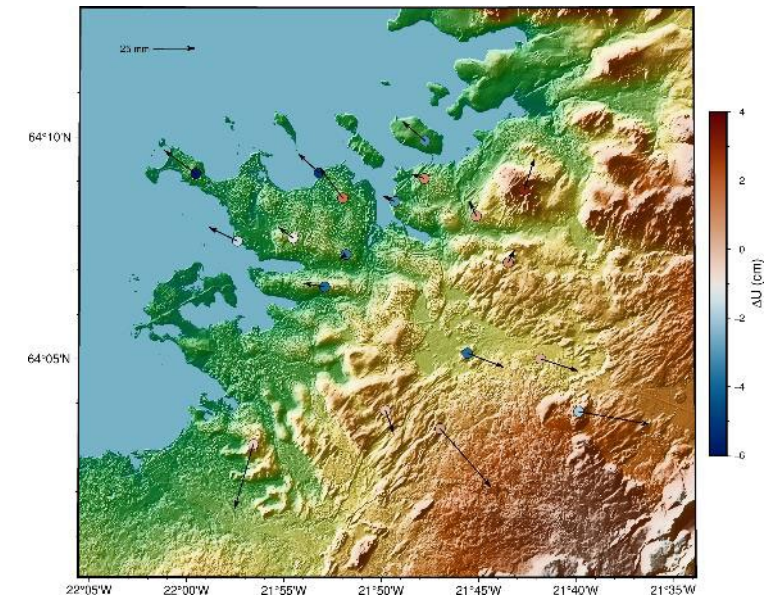
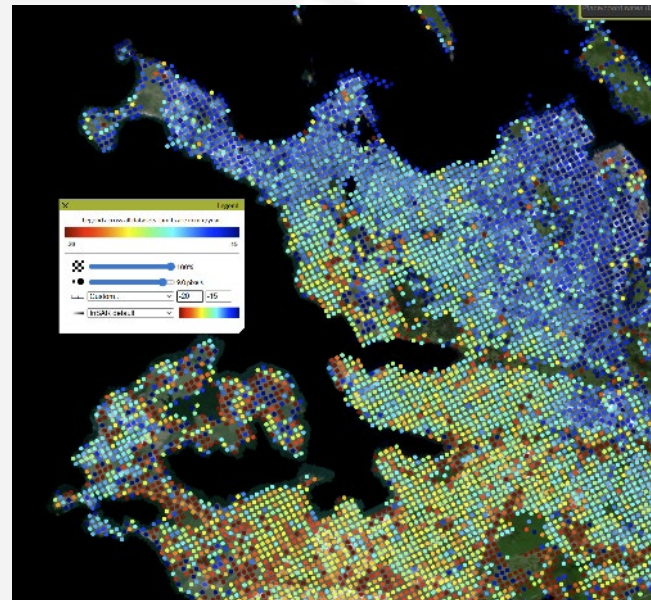
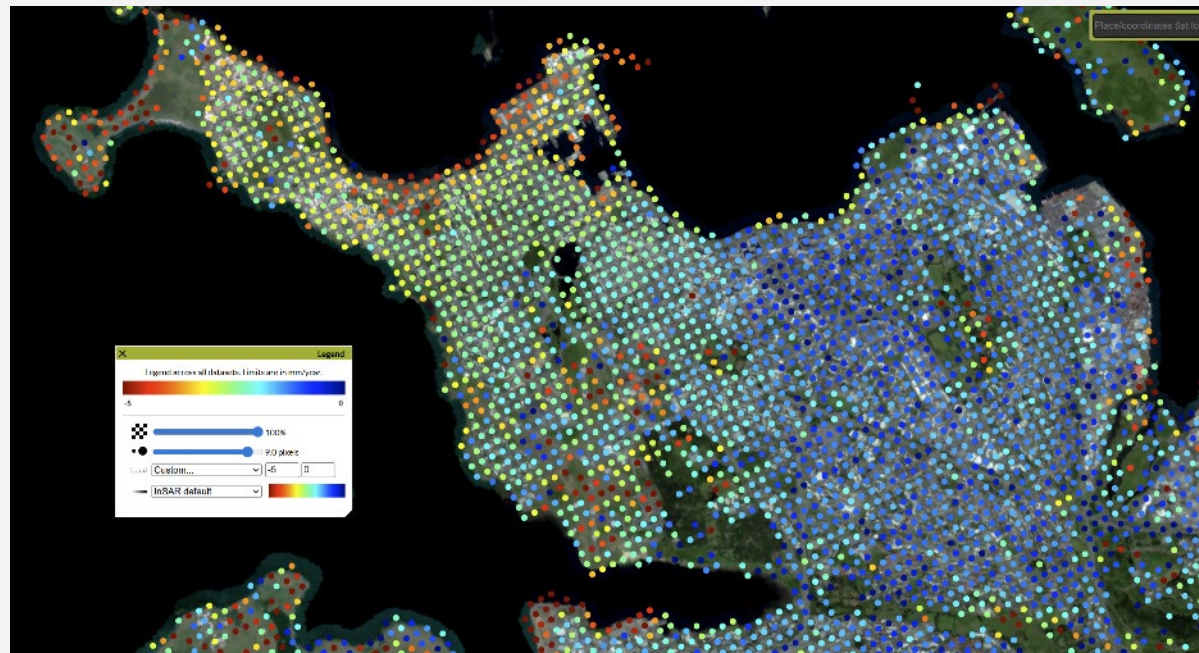
Case study: Reykjavík area

EGMS and other InSAR for pattern detection

GNSS and levelling for verification

focus on low-lying and harbour-related areas

regional overview first, detailed analysis second



Reykjavík area — screening with EGMS, verification with ground data

Strengths and limitations

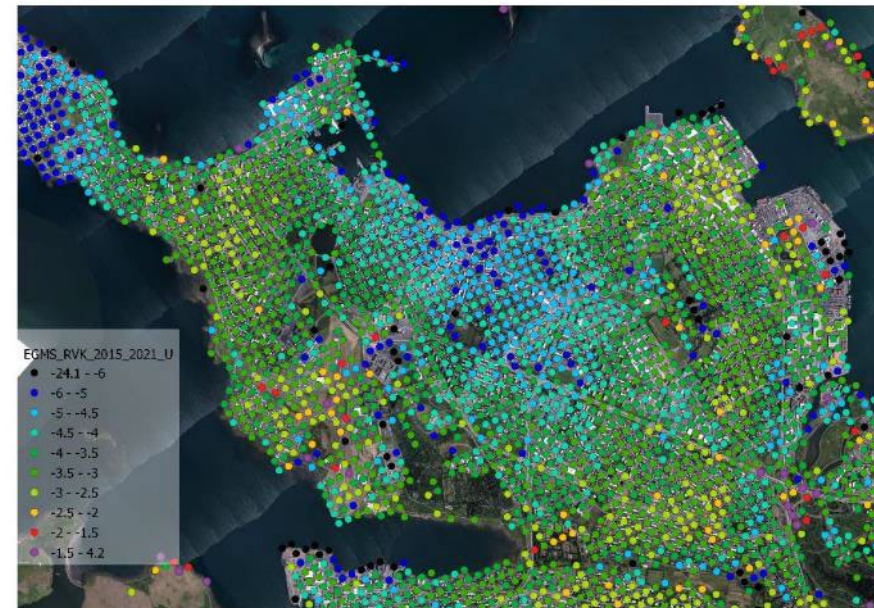
strong regional overview

annual updates

5-year moving window

processing artefacts can occur

not near-real-time volcanic
monitoring



EGMS is a powerful screening layer — not a substitute for interpretation and follow-up measurements.



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Thanks for the attention

- gudmundur.valsson@natt.is

