EUREF IE/UK 2009
EUREF Densification Campaign

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Motivation

In GB

- Previous campaign - EUREF GB 2001, 50% stations now gone
- New, zero order, “GeoNet” network recently completed

In Ireland / Northern Ireland

- Previous campaign - EUREF EIR/GB 95 passive network
- Active stations coordinated in 2002 but not submitted to EUREF

A homogenous EUREF densification across the whole region would benefit all parties

GeoNet

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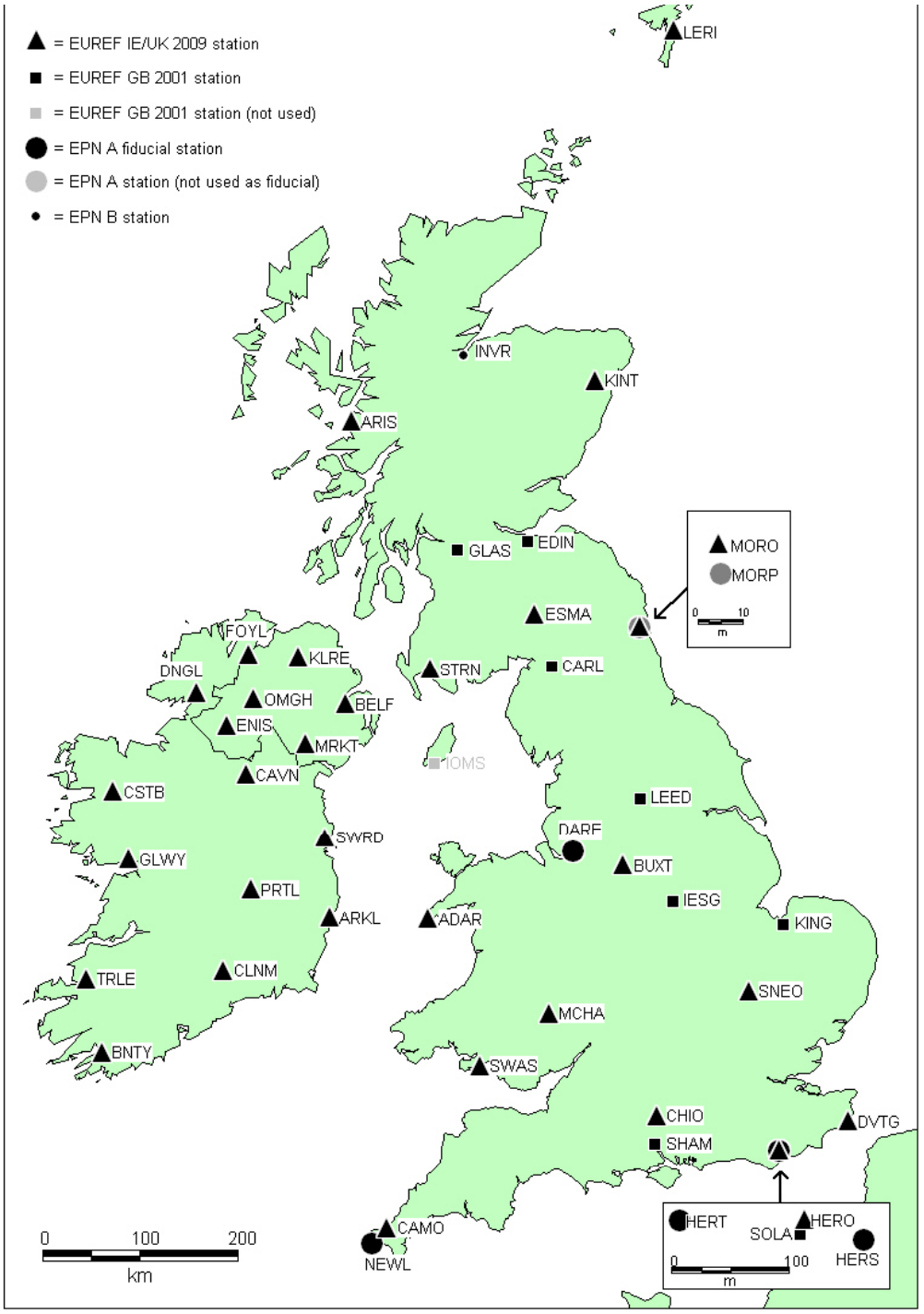
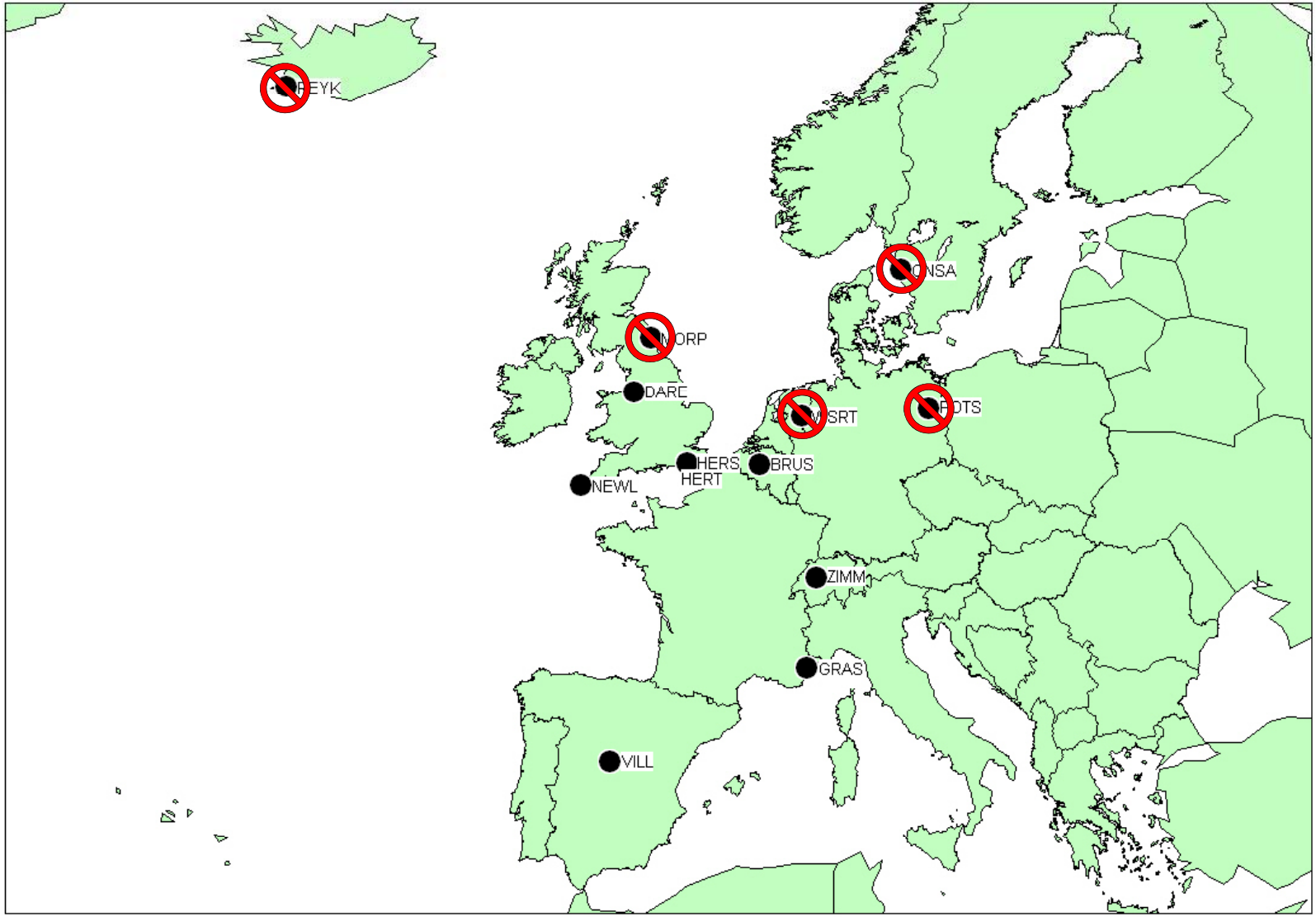
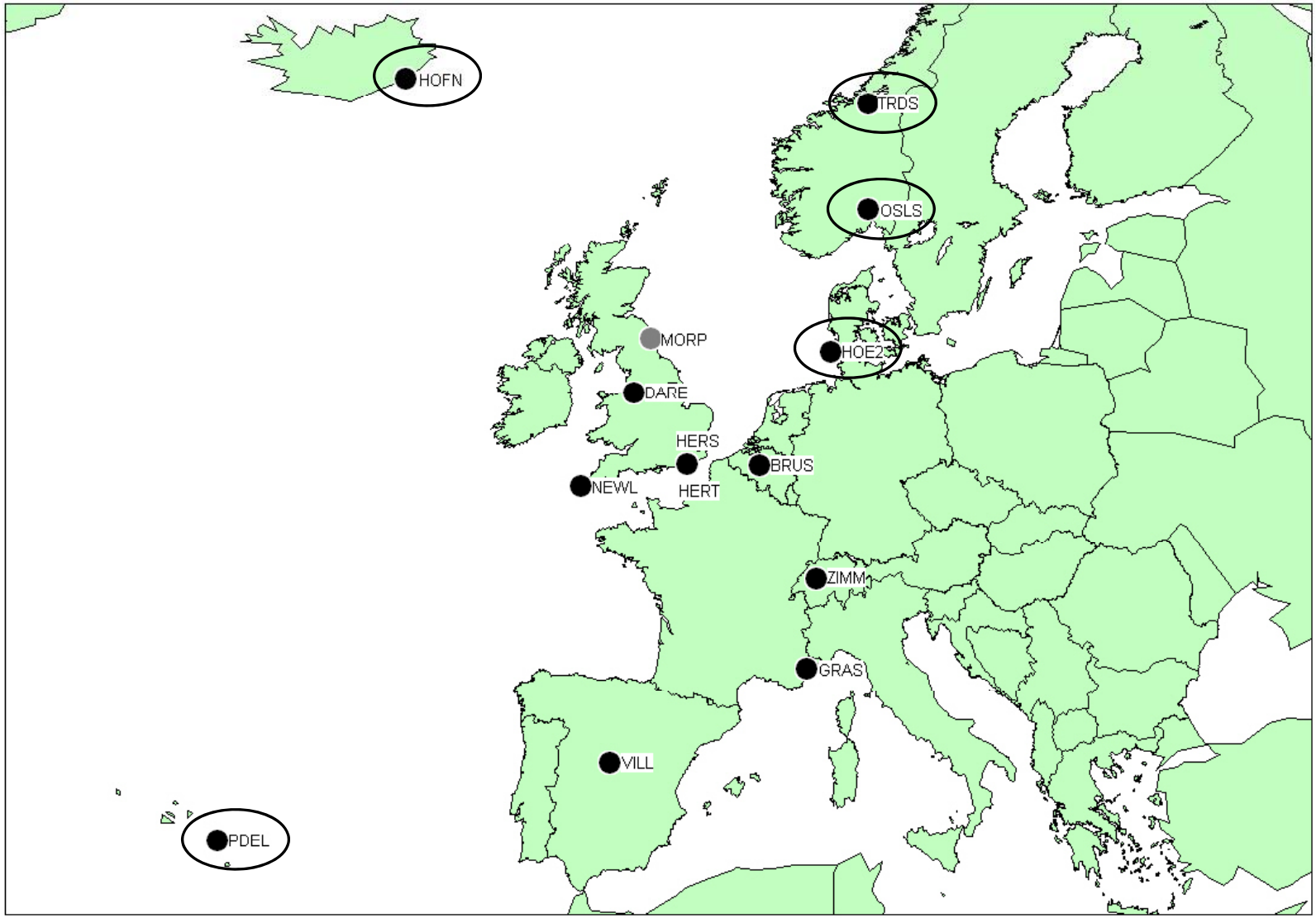
EUREF IE/UK 2009 network



Original fiducial stations



Final fiducial stations



Data processing

Bernese software v5 – patched to latest version

EUREF densification and LAC guidelines

Changes from draft version:

- Estimate troposphere during QIF ambiguity resolution
- OBSMAX baseline strategy instead of SHORTEST
- 10º elevation cut off for QIF ambiguity resolution (3º elsewhere)
- Translation minimal constraint not translation + rotation + scale

Results #1

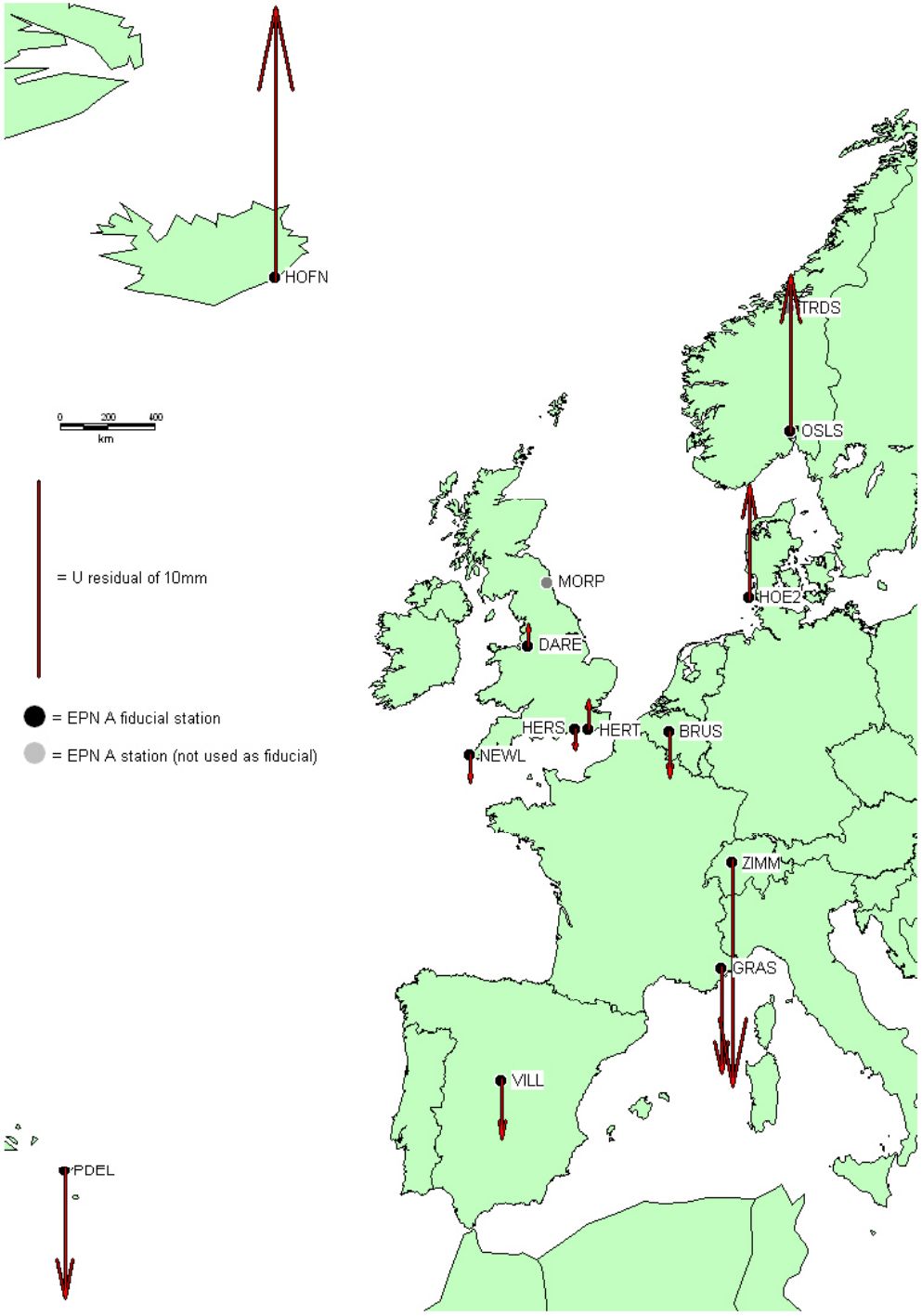
TRDS:

- Poor performance on 3 days
- Still poor after removal of 3 days so station eliminated
- No obvious reason for poor performance

Final, daily repeatabilities = 1-2mm NE, 3-5mm U

Fiducial station coord recovery = 2mm NE, 7mm U but some stations worse than this

Fiducial station U residuals



Results #2

Close agreement with IESSG solution

Comparison to ETRS89:

- For GB comparison with ETRF97 at 10mm level
- Comparison with ETRF2000 at 25mm level
- For Northern Ireland comparison with ETRF2000 at 10mm level