

Error analysis of digital elevation model quality of two Sentinel-1 images of 12 day temporal baseline

Complementing the PrePrint “One-day repeat pass interferometry highlights the role of temporal baseline on digital elevation models retrieved from Sentinel-1”

<https://doi.org/10.5194/egusphere-2025-3998>

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09.01.2026

Image IDs

S1A_IW_SLC__1SDV_20250414T172307_20250414T172334_058755_074751_83B1

S1C_IW_SLC__1SDV_20250420T172155_20250420T172222_001979_003F75_9063

S1A_IW_SLC__1SDV_20250426T172308_20250426T172335_058930_074E73_794B

S1A_IW_SLC__1SDV_20250402T172307_20250402T172334_058580_074020_DB59

Image Pairs

Pair #	Reference	Support	B _{temp} [d]	B _{perp} [m]	HoA [m]
3	14.04.2025	26.04.2025	12	307.1	49.81
4	14.04.2025	02.04.2025	12	147.9	103.34

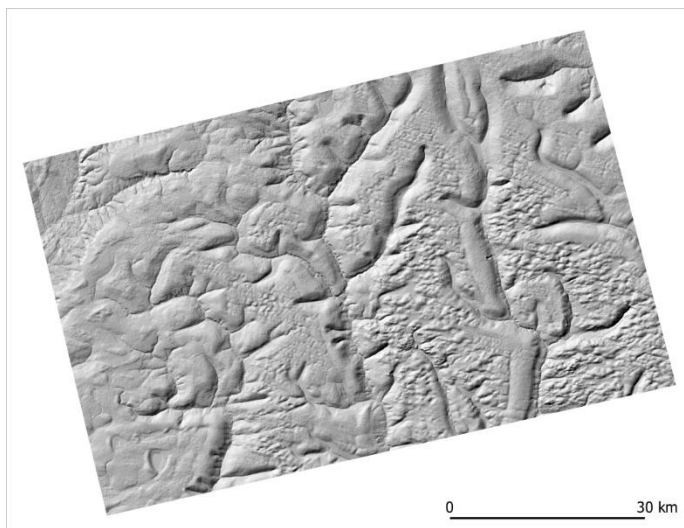
B_{temp} = temporal baseline

B_{perp} = perpendicular baseline

HoA = Height of ambiguity

For processing parameters, please refer to the manuscript

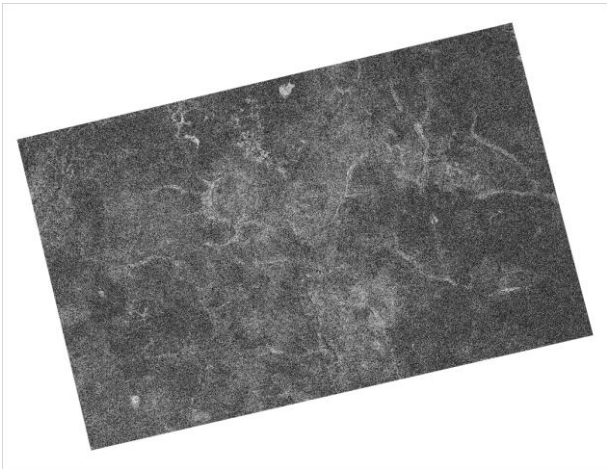
Elevation Model (hillshade) of Copernicus-DEM (GLO-30) for visual reference



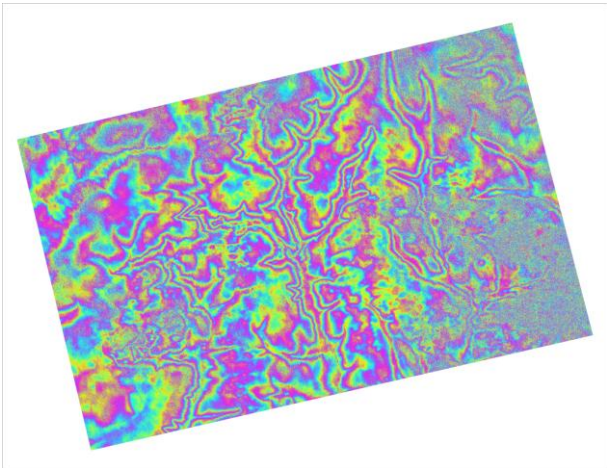
Visual Comparison

Pair 3

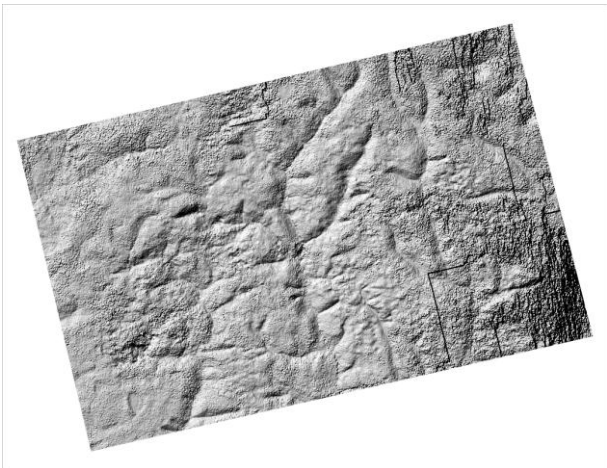
Coherence



Interferogram

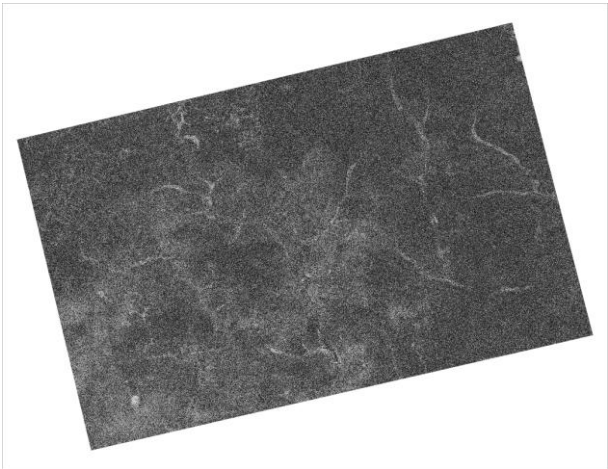


Elevation Model (hillshade)

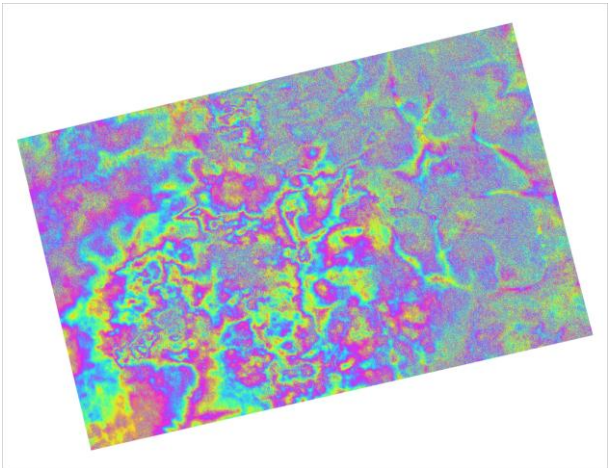


Pair 4

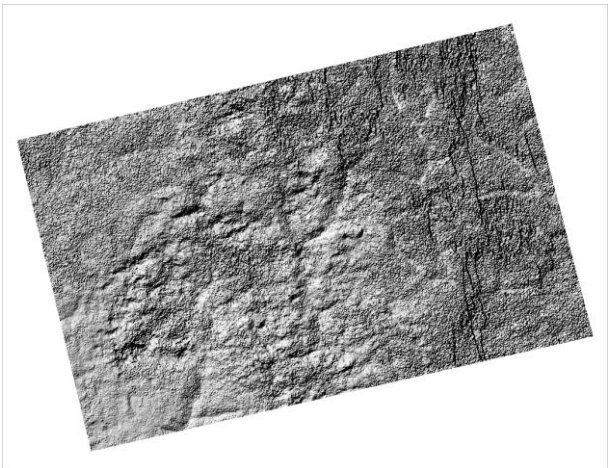
Coherence



Interferogram



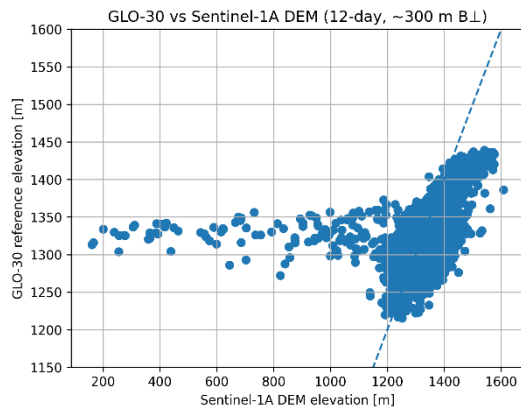
Elevation Model (hillshade)



Error Measures

Pair 3

Scatter Plot



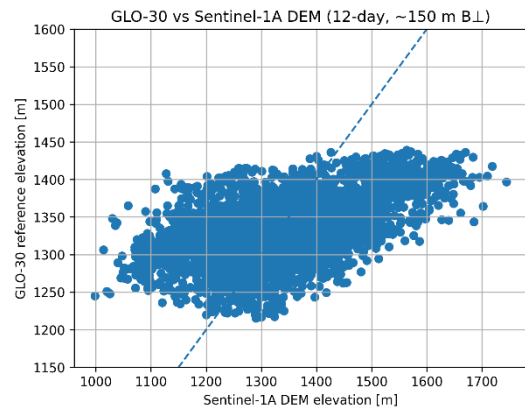
RMSE: 49.419 m

NMAD: 49.381 m

Mean Bias: 20.395 m

Pair 4

Scatter Plot



RMSE: 37.414 m

NMAD: 57.674 m

Mean Bias: 15.683 m