



# National Report: Denmark

Kristian Evers, WG RF, Helsinki, March 2026



Agency for Climate Data

# New realization of Greenland Reference 1996 (GR96)

- New realization is now tied to the GNET stations and a new transformation from ITRF has been determined
- Based on field campaign in 2021 where the defining bench marks were surveyed
- Users of GR96 can now enjoy easier access to the reference frame through GNET
- Everything is registered in EPSG, and thus available in PROJ etc
- Documentation:  
<https://www.klimadatastyrelsen.dk/Media/638977615448527892/NO%2013%20-%20GR96.pdf>



# ETRS89-DNK deteriorating?

- Private RTK providers report difficulties with some Danish CORS stations
  - › BUDP, BUDD & SKG1
- Higher residuals in weekly Bernese calculations observed
- Maybe vegetation is just a growing problem?
- Will be investigated after Easter



# Organizational changes

- Major budget cuts and a new state budget
- 35 employees let go, 2 from the geodesy dept.
- Stop for new CORS and InSAR reflectors
- Focus on maintaining existing infrastructure
- New platforms for all public geodata, both hardware and software during 2026
- New national 3D (digital twin) model on its way



## Alternative to Bernese?

- New hardware platforms and stricter security makes Bernese increasingly harder to deploy and use
- Ginan by Geoscience Australia looks like a promising candidate
- Currently experimenting with daily PPP solutions to monitor effects of signal interference
- First tests show that PPP coordinates are consistent with coordinates determined using Bernese



# Thank you



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# BUDD solution using different approaches

ETRS89-DNK (PPP solutions transformed using NKG2020)

Source	X	Y	Z	Epoch
Ginan	3513649.62695	778954.54969	5248201.77796	2024.0055
CRCS-PPP	3513649.62159	778954.54072	5248201.77139	2024.0055
Bernese	3513649.63170	778954.53800	5248201.78430	

## Difference in solutions

Comparison	N (m)	E (m)	U (m)
Ginan → Bernese	0.012	-0.002	-0.006
Ginan → CRCS-PPP	0.005	0.000	-0.016

Comparison	$\Delta X$ (m)	$\Delta Y$ (m)	$\Delta Z$ (m)	Distance
Ginan → Bernese	0.00475	-0.01169	0.00634	0.01412 m
Ginan → CRCS-PPP	-0.00536	-0.00897	-0.00657	0.01235 m