

National Report of the Netherlands

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Hans van der Marel (Delft University of Technology)
 Joop van Buren (Kadaster)
 Anton Kösters (Rijkswaterstaat)

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Geodetic Infrastructure of the Netherlands

- Maintenance of National Geodetic Infrastructure is fragmented and thus at risk; four (small) separate organisations for:
 - Horizontal control (Cadastre)
 - Vertical control (Min. of Infrastructure and Environment)
 - Hydrography (Navy)
 - Research (Delft University)
- Solution in
 - cooperation with obligation
 - commitment to contribute to a G.I.

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9 primary stations

Coordinate changes

- Terschelling (slight movement)
- Apeldoorn (storm damage)

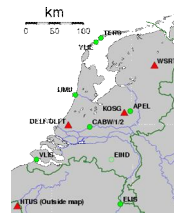


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Dutch Permanent GNSS Array data center renovated



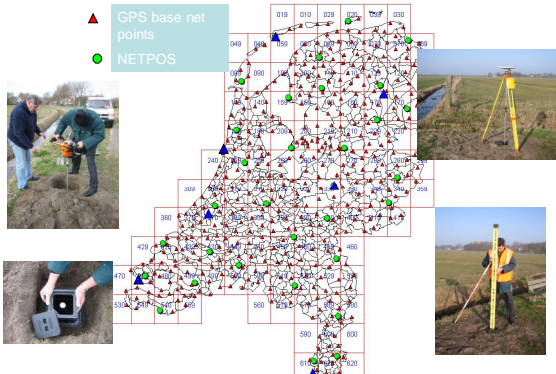
- New servers at two separate sites for security
- Hot backup
- New address:
<http://gnss1.tudelft.nl/dpga>

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Minimizing the number of GPS base net points



National levelling NAP

- Good experiences with crossing large waterways by means of total station.
- Continuing of absolute gravity measurements, in cooperation with TU Delft, for monitoring height reference changes.
- Significant differences are found between results of levelling and GPS measurements in the south of the country. Possible causes:
 - Not using orthometric corrections in levelling
 - Systematic errors at the border of the geoid
 - Changes in ETRS89 as a reference for GPS
 - Similar differences were found West of Rotterdam.

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Control of NAP results of the abs. gravity campaign 2010

	Westerbork 1997 - 2010		Zundert 1997 - 2010		Epen 1993 - 2010	
Linear trend [$\mu\text{Gal}/\text{yr}$]	-0.32	± 0.18 (1 σ)	-0.48	± 0.21 (1 σ)	-0.39	± 0.10 (1 σ)
		± 0.36 (2 σ)		± 0.42 (2 σ)		± 0.20 (2 σ)
Linear trend [mm/yr]	1.0	± 0.6 (1 σ)	1.6	± 0.7 (1 σ)	1.3	± 0.3 (1 σ)
		± 1.2 (2 σ)		± 1.4 (2 σ)		± 0.6 (2 σ)
Free-air gravity gradient is being used: 0.3086 [$\mu\text{Gal}/\text{mm}$]						
RMS residuals [μGal]	2.7		3.1		1.7	

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NAP monument renovated



Situated in the
Amsterdam City Hall
and Opera building
Visualisation of the
vertical datum point
of the Netherlands
and Europe



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