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PM

National Geodetic Systems

The following is a very short compilation of Swedish national reference and co-ordinate systems. Apart from those mentioned below, many local systems as well as some international ones are also in use in Sweden; see LMV-rapport 1998:4 – an LMV report in the series "Geodesy and Geographic Information Systems".

National three-dimensional systems

Table 1: Short descriptions of Swedish three-dimensional reference frames.

Notation	Description	Ellipsoid
SWEREF 99	Swedish realisation of the European geodetic reference system ETRS89. Defined by approximately 30 class A stations of the national network of permanent GNSS reference stations (Swepos®) and, in addition, some 100 stations in our neighbouring countries.	GRS 80 (global)
SWEREF 93	The previous Swedish realisation of the European geodetic reference system ETRS89. Should not be used after the introduction of SWEREF 99.	GRS 80 (global)
RR 92	The national reference system 1992; RT 90 and RH 70, together with RN 92 (see below). Is not a true 3D system. The system is now seldom used.	Bessel (local)

National plane coordinate systems

Table 2: Short descriptions of Swedish plane coordinate systems.

Notation	Description	Ellipsoid/ projection
SWEREF 99 TM	National planar coordinate system obtained by projection of SWEREF 99.	GRS 80/ Gauss (TM)
SWEREF 99 12 00 … 23 15	Twelve national planar coordinate systems for large-scale applications obtained by projection of SWEREF 99.	GRS 80/ Gauss (TM)
RT 90	National reference system 1990: based on the third national triangulation (trilateration) (1967-1982).	Bessel/ Gauss (TM)
RT R01 etc.	Twelve regional systems defined during the third triangulation.	Bessel/ Gauss (TM)
RT 38	National reference system 1938: based on the second national triangulation (1903-1950). The precursor of RT 90.	Bessel/ Gauss (TM)

National height systems

Table 3: Short descriptions of Swedish height systems.

Notation	Description	Zero point
RH 2000	National Height System 2000: based on the third national precise levelling (1978-2003). Replaces older height systems.	Normaal Amsterdams Peil (NAP)
RHB 70	Heights computed in RH 70 using the observations from the third national precise levelling (1978-2003).	Normaal Amsterdams Peil (NAP)
RH 70	National height system 1970: based on the second national precise levelling (1951-1967).	Normaal Amsterdams Peil (NAP)
RH 00	National height system 1900: based on the first national precise levelling (1886-1905).	Slussen in Stockholm

National geoid models (geoid height systems)

Table 4: Short descriptions of Swedish geoid models.

Notation	Description	Ellipsoid
SWEN17_RH2000	The Nordic geoid model NKG2015 adjusted to SWEREF 99 and RH 2000. Corrections applied for land uplift. A smooth residual surface has been used to model the GNSS/levelling residuals.	GRS 80
SWEN17_RH70	The Nordic geoid model NKG2015 adjusted to SWEREF 99 and RH 70. Corrections applied for land uplift. A smooth residual surface has been used to model the GNSS/levelling residuals.	GRS 80
SWEN08_RH2000	The Swedish geoid model KTH08 adjusted to SWEREF 99 and RH 2000. Corrections applied for land uplift. A smooth residual surface has been used to model the GPS/levelling residuals.	GRS 80
SWEN08_RH70	The Swedish geoid model KTH08 adjusted to SWEREF 99 and RH 70. Corrections applied for land uplift. A smooth residual surface has been used to model the GPS/levelling residuals.	GRS 80
SWEN05_RH2000	The Nordic geoid model NKG 2004 adjusted to SWEREF 99 and RH 2000. Corrections applied for land uplift. A smooth residual surface has been used to model the GPS/levelling residuals.	GRS 80
SWEN05_RH70	The Nordic geoid model NKG 2004 adjusted to SWEREF 99 and RH 70. Corrections applied for land uplift. A smooth residual surface has been used to model the GPS/levelling residuals.	GRS 80
SWEN 05LR	Earlier name of SWEN05_RH2000.	GRS 80
SWEN 01L	National geoid height system 2001: based on the Nordic model NKG 96 adjusted to SWEREF 99 and RH 70. Corrected for postglacial land uplift.	GRS 80

Notation	Description	Ellipsoid
SWEN 98L	National geoid height system 1998: based on the Nordic model NKG 96 adjusted to SWEREF 93 and RH 70. Corrected for postglacial land uplift.	GRS 80
RN 92	National geoid height system 1992. Computed from the Nordic model NKG 89.	Bessel

National gravity systems

Table 5: Short descriptions of Swedish gravity systems.

Notation	Description
RG 2000	National gravity reference system 2000; the fundament is 113 points measured by absolute gravimeters.
RG 82	National gravity reference system 1982: based on the third fundamental gravity network measured 1981-1982.
RG 62 ECS 62	National gravity reference system 1962: based on the second fundamental gravity network measured 1960-1966. Connected to the European Calibration System 1962.
RG 41	National gravity reference system 1941: based on the first fundamental gravity network measured 1941–1948.