

Products, Tools & Timelines of Modernization: NGS and Canada

Product or Tool	Canada	USA
Reference Frames	ITRF2020, NATRF2022	ITRF2020, (N/P/C/M)ATRF2022
Geopotential Datum	CGVD2013 (SGEOID2022)	NAPGD2022 w/ (S/D)GEOID2022
Crustal Deformation Model	Canadian IFDM2022 (TBD)	IFDM2022
Geometric Transformations - tool	TRX	NADCON 5.x
Geometric Transformations - from	NAD83(CSRS) any epoch	NAD 83 (2011/PA11/MA11) epoch 2010.00
Geometric Transformations - to	NATRF2022 any epoch ITRFxx any epoch	N/P/C/MATRF2022 epoch 2020.00 (ITRF2020)
Vertical Transformations - tool	GPS-H	VERTCON 3.x
Vertical Transformations - from	CGVD28 CGVD2013(CG2013A)	NAVD 88, ASVD 02, PRVD 02, NMVD 03, GUVVD 04, VIVD 09, Local Tidal
Vertical Transformations - to	CGVD2013(SGEOID2022)	NAPGD2022 epoch 2020.00
Official integrated tool	None planned before 2025	NCAT or VDatum
Grid format	TBD (GGXF? GeoTIFF?)	TBD (GGXF? GeoTIFF?)

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GNSS processing engine	SPARK, Bernese 5.2, GipsyX	M-PAGES
Least-squares adjustment engine	CGS SINEX software, GHOST	LASER
Stand-alone GNSS processor	CSRS-PPP	OPUS-S (eventually OPUS 6)
Geodetic survey processor	Bernese v5.2	OPUS-Projects 5.x (eventually OPUS 6)
Submitted data formats supported	RINEX 2/3	RINEX 3, GDX
Projections supported	UTM, MTM, Double Stereographic	UTM, USNG, SPCS2022
Rotation model of tectonic plates	EPP2022 (N)	EPP2022 (N/P/C/M)
Information about passive marks	GEODB/Passive Control web application	Data Delivery System
Information about active control	GEODB/CACS web application	Data Delivery System
CORS networks supported	IGS, Public Active Control Networks (CACS/RACS/WCDA/Provincial/Municipal), Commercial RTK Compliance Program	IGS, NOAA CORS Network (NCN)

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Timeline	Canada	USA
First alpha products released	<ul style="list-style-type: none"> ● ITRF2020/NAD83(CSRS) v8 coordinate functions for public active control stations ● GEOID2022 ● Late 2023 	<ul style="list-style-type: none"> • ITRF2020 coordinate functions at NCN stations • GEOID2022 • sometime in 2023
Beta products released	Late 2024 - Mid 2025	Mid 2024 – Mid 2025
Official adoption	Late 2025	Mid 2025
Phase out of current NSRS/CSRS	Sometime after 2030	Mid 2024 – Mid 2026